Fairness Within:

Sources and Consequences

of Procedural Fairness

in Police Agencies

by

David H. F. Tyler

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Graduate Supervisory Committee:

Edward R. Maguire, Chair
Danielle Wallace
Rick Trinkner

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ABSTRACT

Over the last decade, scholars have become increasingly attentive to the role of procedural fairness in shaping police officer attitudes and behaviors. In Chapter 1, I review key developments within this research, and identify several theoretical and methodological issues present in the current literature. I then outline the issues I seek to address through the three studies presented in this dissertation. In Chapter 2, I explore a divergence in how scholars conceptualize and measure sources of internal procedural fairness (IPF) within police departments. I discuss the implications of these divergences, and then compare three conceptualizations of IPF sources. I find that officers appear to form separate IPF judgement for each source, and that each procedural fairness judgment has unique associations with several outcomes. In Chapter 3, I examine the relationship between internal procedural fairness and officer engagement in external procedural fairness (EPF). Drawing upon the group engagement model (GEM), I argue that the relationship between IPF and EPF is mediated by organizational identification. Comparing the GEM against the prevailing explanation for this relationship, I find that the GEM better accounts for the relationship between IPF and EPF. In Chapter 4, I explore the role of organizational emphasis in shaping police officer support for several different policing strategies. The GEM suggests that IPF will simply bond officers to organizational goals and norms; it is this bond that motivates officers to adopt the strategies emphasized by their department. Examining support for several policing strategies, I find that officers who are more committed to their agency are more sensitive to changes in the emphasis placed on specific strategies. In Chapter 5, I review the

findings of the various studies presented in this dissertation and discuss the implications of this research. Collectively, these three studies offer several insights into how IPF shapes police officer attitudes and behaviors. They highlight the importance of officer identification with organizational norms and value in shaping police officer attitudes and behaviors and establish new avenues for IPF research within police organizations.

DEDICATION

For my beautiful wife Dana.

Thank you for all your love and support.

I could not have done this without you.

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CHAPTER 1

ORGANIZATIONAL FAIRNESS IN POLICING AGENCIES

For decades, scholars have explored the influence of just and fair treatment from others as a means of influencing the attitudes, emotions, and behaviors of an individual (Blader & Tyler, 2009; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Colquitt, Greenberg, & Zapata-Phelan, 2005; Greenberg, 2011; Tyler & Blader, 2003). Whether discussing engagement in economic markets, employee adherence to organizational rules, or citizen compliance with police, this research has consistently found that experiences of fairness play a central role in shaping people's attitudes, values, and behaviors across numerous contexts (Colquitt et al., 2001; Myhill & Bradford, 2013; Nagin & Telep, 2017; Sondak & Tyler, 2007; Tyler & Blader, 2003). Within the field of criminology and criminal justice, a substantial body of research has focused on how the fair treatment of citizens by the police and other legal authorities shape citizens' perceptions of legitimacy, deference to legal authorities, and self-regulatory behavior amongst citizens (Nagin & Telep, 2017; Tankebe, 2013; Tyler, 2006b; Tyler & Huo, 2002).

Recently, however, criminal justice scholars have also begun examining these same principles *within* police agencies. While a handful of studies have explored the role of fairness within police departments at previous times (Farmer, Beehr, & Love, 2003; Morris, Shinn, & DuMont, 1999; Truxillo, Bauer, & Sanchez, 2001), internal organizational fairness came to the forefront in recent years as scholars began applying the principles of Tom Tyler's process-based model (Tyler, 2006b; Tyler & Huo, 2002) to understand police officer behavior (Bradford & Quinton, 2014; Myhill & Bradford, 2013;

Wolfe & Piquero, 2011). The process-based model of policing argues that when citizens perceive legal authorities to behave in a procedurally fair manner (i.e. the treatment and decision making of the legal authorities is fair) they become more likely to accept the outcomes of a decision-making process (Tyler, 2006a, 2006b; Tyler & Huo, 2002).[2] Additionally, experiences of procedural fairness are expected to shape the citizen's long-term compliance with legal authorities and social norms. Applying these same principles to experiences within police departments, numerous studies over the past decade have found that procedural fairness shape police officer attitudes and behaviors. Officers who experience internal procedural fairness are less likely to engage in misconduct or use force against citizens, are more supportive of community policing initiatives, and are more likely to engage in discretionary behaviors that help their agency (Myhill & Bradford, 2013; Trinkner, Tyler, & Goff, 2016; Wolfe & Piquero, 2011). Fairly consistently, the literature has found that police officers and other legal authorities care about the fairness within their work environment, and that perceptions of fairness influence officer attitude towards the department as well as their behavior both on the streets and off duty.

Since the 1980s, researchers across numerous fields have questioned how to get workers to adopt organizational goals and modify behaviors to align with organizational priorities (Cohen-Charash & Spector, 2001; Colquitt et al., 2001, 2005; Greenberg,

[2] The process-based model of policing (Tyler, 2006b; Tyler & Huo, 2002) refers specifically to the relationship between police officers and citizens, however it draws upon the same principles of procedural and distributive fairness that exist in all groups or organizations (Blader & Tyler, 2003a; Colquitt et al., 2001, 2005; Tyler & Blader, 2000, 2003)

2011). This research has found that when workers experience procedural fairness within their workplace, they express higher levels of job satisfaction and alignment with organizational goals and values. Experiences of internal procedural fairness have also been found to be associated with a greater willingness to engage in voluntary behaviors that benefit an employee's workplace (Blader & Tyler, 2009; Colquitt et al., 2001, 2005; Greenberg, 2011; Tyler & Blader, 2003). Additionally, this research has found that fairness with organizations is associated with less conflict amongst coworkers, burnout, turnover, and job neglect (Cohen-Charash & Spector, 2001; Colquitt, 2001; Colquitt et al., 2005; Greenberg, 2011).

As police scholars began examining procedural fairness within police departments, similar associations have been observed. When departments engage in in procedurally fair practices, officers tended to express higher levels of job satisfaction and alignment with organizational norms and goals (Bradford, Quinton, Myhill, & Porter, 2014; Farmer et al., 2003; Rosenbaum & McCarty, 2017; Trinkner et al., 2016). Additionally, officers who experienced procedural fairness within their organizations report lower levels of job stress (Lambert, Hogan, & Griffin, 2007; Trinkner et al., 2016) and were less likely to be adversely effected by negative public scrutiny (Nix & Wolfe, 2017). Just as other employees in their workplaces, research within police organizations has consistently found that officers are sensitive to the fairness of their organization.

As internal procedural fairness within criminal justice organizations continues to expand, there is a growing need to address several issues present in the current literature. In this dissertation, I identify several conceptual and methodological problems present in

procedural fairness research within policing organizations. Drawing on the broader organizational fairness literature, I argue for a more rigorous theoretical and methodological study of the internal dynamics of fairness within police departments.

Conceptualizing Internal Fairness in Policing

Scholars have long debated how to delineate between various types of fairness within organizations (Colquitt, 2001; Greenberg, 2011; Trinkner & Tyler, 2020; Tyler & Blader, 2003). Greenberg (1990) initially conceptualized organizational fairness as an umbrella term for two types of fairness: *procedural*, which focused on the fairness of the decision making process (Leventhal, 1980; Thibaut & Walker, 1975), and *distributive*, which focused on the fairness of decision making outcomes (Deutsch, 1975; Homans, 1974; Leventhal, 1976). Over the years, organizational scholars argued in favor of introducing a third factor, *interpersonal fairness*, arguing that people are sensitive to the quality of interpersonal treatment they receive during the decision making process (Bies & Moag, 1986; Bies & Shapiro, 1987). Additionally, some scholars have introduced the concept of *informational fairness*, that is, the fairness by which decisions are explained to employees and how transparent decision makers are when explaining their rationale to subordinates (Colquitt et al., 2005). The nature of the relationships between these four types of fairness have been extensively debated in the organizational fairness literature (Colquitt, 2001; Colquitt et al., 2005; Greenberg, 1993; Tyler & Blader, 2003). Some have argued that each type of fairness is distinct, and that organizational fairness should be treated as a four-dimensional construct (Colquitt, 2001; Colquitt et al., 2005; Greenberg, 1993). Others contend that interpersonal and informational justice are not

empirically or substantively different should be treated as a single type of fairness called *interactional* fairness (Bradford et al., 2014, p. 113). Additionally, some scholars advocate against splitting procedural and interactional fairness, arguing that there is little conceptual difference between perceptions of fair processes and perceptions of fair interpersonal treatment (Blader & Tyler, 2009; Bradford et al., 2014; Tyler & Blader, 2003).[3]

At present, there are no standard conventions guiding the types of fairness considered when studying organizational fairness in the criminal justice setting. In some studies, scholars conceptualized organizational fairness as unidimensional, combining items tapping the various types of fairness (procedural, distributive, and informational) into a single measure considered organizational fairness (Myhill & Bradford, 2013; Nix & Wolfe, 2017; Wolfe & Hoffmann, 2016; Wolfe & Piquero, 2011). In others, procedural and distributive fairness are treated as mutually exclusive constructs that influence on organizational fairness outcomes such as job satisfaction and support for organizational goals (Bradford & Quinton, 2014; Bradford et al., 2014; Tankebe, 2014b; Tyler, Callahan, & Frost, 2007). More commonly, however, criminal justice research has

[3] Studies of internal fairness within police departments have tended to adopt this line of thinking, implicitly or explicitly combining procedural and interactional justice into a single construct. The preference may be in part due to the conceptualization and operationalization of procedural justice within the process-based model of compliance (Tyler, 2006b; Tyler & Huo, 2002), which has dominated the last two decades of legitimacy research within criminology and criminal justice (Mazerolle et al., 2014; Nagin & Telep, 2017; Reisig et al., 2007; Tyler & Huo, 2002). Consistent with his conceptualization of procedural justice within organizational justice, Tyler (2006, 2011; see also Tyler & Huo, 2002) argues that citizen perceptions of procedural justice are an evaluation of the quality of treatment and decision making by legal authorities during encounters. This conceptualization has been widely adopted and refined within the field (Nagin & Telep, 2017; White, Porter, & Mazerolle, 2013), while the debate over the dimensionality of internal fairness has largely taken place in organizational and business management research (Colquitt, 2001; Colquitt et al., 2005; Greenberg, 2011).

sidestepped this issue, and focused specifically on the role of procedural fairness while largely ignoring the other types of organizational fairness.

Within the policing literature, procedural fairness has generally been conceptualized as the fairness of treatment and decision making of an authority figure, whether a police officer when interacting with citizens or a supervisor managing police officers (Bradford et al., 2014; Nagin & Telep, 2017; Trinkner et al., 2016; Tyler, 2006b; Tyler & Huo, 2002). In practice, procedural fairness has been evaluated along four aspects reflecting the fairness of treatment (decision maker treats all individuals with dignity and respect, the decision maker has trustworthy motives) and the fairness of decision making (the decision maker remains impartial throughout the interaction, the decision maker allows the individual an opportunity for input). These four aspects of fair treatment and decision making are often referred to as dignity and respect, trustworthy motives, neutrality, and voice (Mazerolle et al., 2014; Nagin & Telep, 2017; Tyler, 2011). Measures of procedural fairness, both during police-citizen encounters as well as police-supervisor interactions, have tended to capture these four elements of procedurally fair behavior (Haas, Van Craen, Skogan, & Fleitas, 2015; Nagin & Telep, 2017; Van Craen & Skogan, 2017; Wolfe & Nix, 2017).

While studies of internal procedural fairness within police agencies have largely agreed on the elements of procedurally fair treatment and decision making, substantial differences have emerged in how scholars treat the *sources* of procedural fairness within police departments. A *source* of procedural fairness refers to the origins of the experiences that shape an individual's evaluation of fairness (Blader & Tyler, 2003c).

Policing scholars have not developed clear conventions guiding the conceptualization and measurement procedural fairness in multiple sources. Some have approached procedural fairness from supervisors and procedural fairness from department management as two separate constructs (Bradford et al., 2014; Rosenbaum & McCarty, 2017; Trinkner et al., 2016; Wolfe, Rojek, Manjarrez, & Rojek, 2018). Others treated sources of fairness as largely irrelevant and combined assessments of multiple sources, like the behavior of supervisors and department leadership, into a single measure (Van Craen & Skogan, 2017). Each of these approaches to measuring the underlying construct reflect divergent conceptions of what the construct actually is. This lack of consistency makes it difficult to pin down exactly what we know about internal organizational fairness, and how each study fits into the broader literature. I further explore this issue in Chapter 2, where I compare several approaches to measuring procedural fairness within police departments.

Internal Fairness and Group Engagement

There is also a need for researchers to adopt and test stronger theoretical frameworks detailing the relationships between various constructs as this literature continues forward. For instance, several studies have demonstrated a strong correlation between internal procedural fairness within police departments and officer willingness to engage in procedurally-fair policing[4] (Bradford & Quinton, 2014; Haas et al., 2015;

[4] Procedurally-fair policing refers to an approach to policing that adopt the four elements of procedural fairness (treating citizens with dignity and respect, holding trustworthy motives, remaining impartial, and giving citizens an opportunity for voice) as a means of building trust and a shared sense of legitimacy amongst community members (President's Task Force on 21st Century Policing, 2015; Tyler, 2006b; Tyler & Huo, 2002)

Trinkner et al., 2016). While studies have continually found *that* internal procedural fairness is salient in shaping officer support for procedurally fair policing, less attention has focused on *why.* One possible explanation for this relationship draws upon social learning theory, general strain theory, and aggression transference theory, arguing that four mechanisms connect internal and external procedural fairness: supervisor modeling, trust in citizens, negative emotions, and job satisfaction (Van Craen, 2016a, 2016b). While this *Fair Policing from the Inside Out* model has received mild support in recent years (Sun, Wu, Liu, & Van Craen, 2019; Sun, Wu, Van Craen, & Hsu, 2018; Van Craen & Skogan, 2017; Wu, Sun, Van Craen, & Liu, 2019), the *Inside Out* model is likely incomplete, as it omits several key variables and potentially conflates several relationships. In Chapter 3, I further discuss these omissions before offering an alternative explanation for the relationship between internal and external procedural fairness by applying the group engagement model to police organizations.

The group engagement model (GEM) offers a social identity explanation for why people invest themselves in groups and engage in both mandatory and discretionary group behaviors. Tyler and Blader (2003) argue that individuals engage with groups as a means of constructing and maintaining identity. Individuals rely upon the treatment they receive from others to understand their social status and construct a social identity. Judgments of fairness, particularly procedural fairness, are particularly salient in shaping an individual's identity, as they are clear indicators of their status within a group. According to the GEM, when an individual feels valued and respected by a group, they develop attachments and shape the social aspect of their identity around group values and

norms, linking self-esteem and self-image with group membership. It is this process of identification with group values that subsequently shapes psychological and behavioral engagement within groups (Blader & Tyler, 2003a, 2003b, 2009; Tyler & Blader, 2000, 2001, 2003), as the individual comes to view the success or failure of themselves in terms of group membership and the success or failure of the group.

Applying the GEM to police organizations, we should expect that officers who experience procedural fairness within their departments are more likely to internalize the values and goals of their department. Experiences of procedural fairness bond officers to organizational norms by providing a sense of pride and respect in group membership. Just as external procedural fairness shapes citizen perceptions of police legitimacy and self-regulatory behavior, internal procedural fairness shapes a group members' identification with group ideals and their engagement in group activities (Blader & Tyler, 2009; Tyler & Blader, 2003). We should therefore expect that procedural fairness indirectly affects an officer's attitudes towards particular strategies by increasing alignment with group goals and norms. I therefore expect that an officer's identification with organizational norms and values mediates the relationship between experiences of internal procedural fairness and officer support for procedurally fair policing. In Chapter 3, I explore the mechanisms connecting internal procedural fairness to officer support to procedurally fair policing, comparing the explanation offered by the GEM against the *Fair Policing from the Inside Out* model.

A Caveat to Group Engagement

The key distinction between the group engagement model and the *Inside Out* model is the question of whether or not internal procedural fairness is expected to lead to specific officer behaviors. According to the *Inside Out* model, experiences of internal procedural fairness should lead officers to engage in procedurally fair policing practices. Under the GEM, however, the link from internal procedural fairness to officer behavior is mediated by organizational identification. Because internal procedural fairness simply bonds officers to organizational norms and goals, the GEM predicts that officers who experience procedural fairness will support behaviors that align with the norms and goals espoused by the department (Trinkner & Tyler, 2020). As such, organizational identification should bond officers to whatever values and behaviors are espoused by the department. Rather than push officers towards a specific strategy (procedurally fair policing), this seems to suggests that procedural fairness acts through organizational identification to push officers towards whatever strategy is emphasized by the department (Trinkner & Tyler, 2020). I therefore predict that when departments do not emphasize any particular strategy, procedural fairness and identification will not push officers towards specific strategies. Only when emphasis is placed on a particular strategy should we see internal procedural fairness and officer identification pushing officers towards that specific strategy. I therefore expect that the impact of internal procedural fairness on support for any policing strategy will be moderated by the emphasis the organization places on that strategy. I further examine this issue in Chapter 4.

Current Focus

In this dissertation, I present three studies addressing theoretical and methodological gaps in the current criminal justice scholarship explaining the role of fairness within police agencies. While the benefits of internal organizational fairness have been well documented, there remain wide discrepancies in how criminal justice scholars conceptualize internal fairness and the mechanisms that link fairness to these outcomes. Drawing upon the group engagement model and other organizational fairness research, I provide a detailed view of procedural fairness within police organizations.

In Chapter 2, I examine a divergence in how scholars conceptualize and measure internal procedural fairness. To date, conventions guiding scholars on conceptualizing and measuring the core underlying construct have largely ignored the implications of procedural fairness sources. Some studies viewed the fairness of supervisors, policy, and peers as a single construct (Van Craen & Skogan, 2017) or a formative index (Trinkner et al., 2016), while others measured a single source but considered it an overall measure of organizational procedural fairness (Haas et al., 2015). Still other studies considered supervisor procedural fairness and policy procedural fairness to be separate constructs that uniquely influenced outcomes (Bradford et al., 2014; Rosenbaum & McCarty, 2017; Wolfe, Rojek, et al., 2018). The lack of consistency in conceptualization and measurement poses a threat to the underlying research base and raises the possibility of scholars overlooking important relationships between sources of fairness within departments. Given the theoretical, methodological, and practical implications of these

divergent approaches, I compare three different conceptualizations of the relationship between sources of internal procedural fairness within police departments.

In Chapter 3, I examine the mechanisms connecting internal procedural fairness to officer support for procedurally fair policing. Recent scholarship attempting to explain the association between internal and external procedural fairness has largely focused on the *Fair Policing from the Inside Out* model, which draws upon several criminological theories to account for the observed relationship (Van Craen, 2016a, 2016b). Drawing upon the group engagement model, I offer an alternative explanation for the relationship, arguing that the relationship occurs in instances where officers align their social identity with group values and norms that are supportive of procedurally fair policing. This implies that the relationship between identification and support for procedurally fair policing occurs only when a department emphasizes procedurally fair policing. Further, I expect that relationship between identification and support will be moderated by the amount of emphasis placed on procedurally fair policing by an officers' department. I compare these two competing explanations for the relationship between internal and external procedural fairness.

In Chapter 4, I further examine the relationship between internal procedural fairness, identification with organizational values, and officer support for specific policing strategies. Under the GEM, there is no reason to expect that procedurally fair internal practices will inherently encourage "good" officer behavior (Trinkner & Tyler, 2020). Instead, internal procedural fairness should push individuals towards whatever norms already exist within a department, as fairness simply bonds line officers to

whatever goals, values, strategies, and behaviors emphasized by their agency. In effect, the relationship between organizational identification and support for any policing strategy should be moderated by the amount of emphasis the department places on that strategy. In Chapter 4, I empirically assess this emphasis moderation hypothesis by examining the relationship between internal procedural fairness, organizational identification, and officer support for procedurally-fair, community-based, and broken-windows policing strategies.

In Chapter 5, I conclude with a discussion of several key findings from across these three studies and identify several avenues for future theoretical and empirical work in this area. As scholars continues to explore the role of internal procedural fairness within police organizations, it is important to address the array of divergent approaches to conceptualizing and measuring procedural fairness itself. Further, it is increasingly necessary to develop and rigorously test theoretical expectations of the interpersonal dynamics at play within police organizations.

CHAPTER 2

SOURCES AND CONSEQUENCES: THE IMPLICATIONS OF DIVERGENT INTERNAL PROCEDURAL FAIRNESS MEASURES[5]

Over the past several years, policing scholars have become increasingly attentive to the role of fairness in shaping the attitudes and behaviors of officers. Building upon decades of organizational psychology and business management research (Colquitt et al., 2001, 2005; Greenberg, 2011), scholars have found that experiences of fairness within police organizations shape how officers relate to department rules and values (Bradford et al., 2014; Rosenbaum & McCarty, 2017; Tyler et al., 2007), feel about their job (Farmer et al., 2003; Nix & Wolfe, 2016), and behave when interacting with citizens (Trinkner et al., 2016; Wolfe & Piquero, 2011). Again and again, scholarship affirms that just like worker/employer relationships in the business world, police officers are sensitive to the fairness of their organization.

The majority of scholarly attention has thus far focused on the role of internal procedural fairness within police organizations. Drawing upon both Tyler's (2006a, 2011) procedural fairness work examining police/citizen interactions, as well as broader business management research (Colquitt et al., 2001, 2005), much of the work within policing has focused in on the procedural fairness of supervisor and department leaders (Bradford et al., 2014; Donner, Maskaly, Fridell, & Jennings, 2015; Wolfe, Nix, & Campbell, 2018). This literature has documented numerous benefits of internal

[5] I would like to thank Dr. Phil Goff and the Center for Policing Equity for allowing me to use their dataset in the analysis presented within this chapter.

procedural fairness for police organizations, officers, and the public, and continually demonstrates the importance of procedural fairness as an antecedent to a variety of police officer attitudes and behaviors. While the importance of procedural fairness has been well established, there have also been substantial divergences in how scholars conceptualize and measure the sources of internal procedural fairness within police departments. Blader & Tyler (2003b) argued that procedural fairness source refers to "the origins of the experiences that shape employees' procedural [fairness] evaluations" (p. 114). Studies within police agencies have measured the procedural fairness of a variety of sources including supervisors (Wolfe & Nix, 2017), agency leaders (Tankebe, 2014b), peers (Trinkner et al., 2016), and department policy (Wolfe & Piquero, 2011). Studies have diverged on the dimensionality of internal procedural fairness, with some using a single measure that combines multiple sources into a single procedural fairness judgement (Myhill & Bradford, 2013; Tankebe, 2014b), while others construct different measures for the procedural fairness of each source (Bradford et al., 2014; Rosenbaum & McCarty, 2017; Wolfe, Rojek, et al., 2018). Still others have relied on survey items that only measure the procedural fairness of a single source, such as the behavior of supervisors; differing as to whether such a scale represents an overarching internal procedural fairness judgement or a specific judgement of supervisor procedural fairness. Measurement decision are the operational reflection of how scholars conceptualize a construct (Bollen, 1989). Divergent approaches in handling measures from various sources of fairness reflect disagreement as to the nature of the underlying concept. These various approaches to measuring the core construct under investigation implicitly reflects divergences in how

scholars conceptualize internal procedural fairness. In this chapter, I explore the methodological and theoretical implications of three approaches to measuring internal procedural fairness within criminal justice organizations.

The Process of Measurement

Measurement refers to the way in which scholars link a concept to one or more latent variables, and then determine how to link the latent variables to observed variables. Bollen (1989) suggests a four-step process for constructing a measure of a concept. First, a measure should start with a clear theoretical definition that explains the concept in as simple and precise of terms as possible. Next, researchers should use the theoretical definition to identify the dimensions of the concept; measures of a concept should have one latent variable to represent each dimension (Bollen, 1989, p. 181). The third step is to form an operational definition that describes the procedure to follow to construct a measure of the latent variable(s) that represent the concept. Finally, researchers must specify the expected relationship between the observed variables and the latent constructs that form your concept and formalize random and nonrandom errors in the measures. Bollen's (1989) four-step approach to measurement offers a useful framework for discussing the implications of divergent measures of internal procedural fairness

Conceptualizing Internal Procedural Fairness

It is first necessary to establish at a conceptual level what internal procedural fairness is. Procedural fairness refers to the fairness of the process by which decisions are made. In their seminal work on the subject, Thibaut and Walker (1975) argued that individuals form a judgement regarding the fairness of the process by which decisions are

made; this procedural fairness judgement plays an important role in shaping how individuals react to decisions. They argue that individuals who perceive the decision-making process to be fair are more likely to support the outcome regardless of whether the outcome is good or bad.

Within the criminal justice context, research has tended to focus on the procedural fairness of legal authorities when interacting with citizens (Nagin & Telep, 2017; Tyler, 2006b; Tyler & Huo, 2002). Building upon Thibaut and Walker's (1975) concept, criminal justice scholarship has tended to treat procedural fairness as a perceptual judgment of the quality of treatment and quality of decision making an individual experiences when interacting with a legal authority (Mazerolle et al., 2014; Nagin & Telep, 2017; Tyler, 2006b). The quality of treatment and decision making of police officers has generally assessed four aspects of procedurally fair behavior: treating citizens with dignity and respect, having trustworthy motives when interacting with citizens, remaining neutral in the decision making process, and offering citizens a chance to voice their side before decisions are made (Mazerolle et al., 2014; Nagin & Telep, 2017). While Bollen's (1989) guide to measurement would argue such a conceptual definition suggests either a two-dimensional (quality of treatment, quality of decision making) or a four-dimensional (dignity and respect, trustworthy motives, neutrality, voice) construct, empirical tests have tended to find poor discriminate validity between measures of treatment and decision making and subsequently treat the procedural fairness of police officers in police-citizen interactions as unidimensional (Blader & Tyler, 2003a; Myhill & Bradford, 2013; Reisig, Bratton, & Gertz, 2007).

Sources of Fairness Within Police Organizations

While studies of fairness within police organizations have largely agreed upon the content of procedurally fair behavior, less attention has been paid to how we conceptualize the sources of fairness. A source of procedural fairness reflects the origins of the experience that shaped an individual's evaluation of procedural fairness (Blader & Tyler, 2003c). Within police agencies, scholars have measured internal procedural fairness from a variety of sources, capturing the interpersonal treatment and decision making of supervisors, peers, agency leaders, and department policies (Nix & Wolfe, 2017; Trinkner et al., 2016). Critically, however, there is no clear convention as to which source or sources we should pull from when constructing a measure of internal procedural fairness. Moreover, there is no consensus as to how we should conceptualize procedural fairness in terms of its sources.

Research within police organizations has approached the measurement of internal procedural fairness a number of different ways, as summarized in Table 2.1. Initial studies included internal procedural fairness questions in a composite measure of organizational fairness (Wolfe & Piquero, 2011).[6] As it became more common to include

[6] This chapter is focused specifically on measurement conventions surrounding internal procedural fairness within police organizations. A discussion of the other various types of internal fairness within organizations thus falls outside the scope of the current study. It is worth noting, however, that there are discrepancies in how policing research has approached internal organizational fairness more broadly. Internal organizational fairness is an umbrella term for a variety of fairness types found within organizations (i.e. procedural, distributive, interactional). Some research within police departments has captured procedural, distributive, and interactional fairness in a single composite measure (Nix & Wolfe, 2017; Wolfe & Piquero, 2011), while other scholars draw a distinction between types of fairness (Bradford et al., 2014; Tankebe, 2014b; Tyler et al., 2007). Studies of organizational fairness in business management and psychology have tended to create separate measures for each type of organizational fairness, finding clear differences in the downstream consequences of each type of fairness (Colquitt, 2001, 2008; Colquitt et al., 2001, 2005; Greenberg, 2011).

Table 2.1

Overview of Sources and Dimensions of Procedural Fairness Measures

Authors	Sample	Source(s)	Measure(s)
Bradford & Quinton (2014)	N = 438 Officers of the Durham Constabulary (Durham, UK)	Senior Leadership Supervisors	Supervisory Procedural Fairness Leadership Procedural Fairness
Bradford, Quinton, Myhill, & Porter (2014)	N=479 Officers of the Durham Constabulary (Durham, UK)	Senior Leadership Supervisors	Supervisory Procedural Fairness Leadership Procedural Fairness
Haas, Van Craen, Skogan, & Fleitas (2015)	N = 536 Police Officers of the Buenos Aires Metropolitan Police	Supervisors	Internal Procedural Fairness
Myhill & Bradford (2013)	N = 1,697 Officers, PCSOs, and Special Constables from a Rural Force in the UK	Department Wide Managers	Organizational Fairness (Composite Measure of PF & IF)
Nix & Wolfe (2016)	N = 510 Deputies from a Southwestern Sheriff's Office	Department Policy Command Staff	Organizational Fairness (Composite Measure of PF, DF, & IF)
Nix & Wolfe (2017)	N = 567 Deputies from a Southwestern Sheriff's Office	Department Policy Command Staff	Organizational Fairness (Composite Measure of PF, DF, & IF)
Rosenbaum & McCarty (2017)	N = 15,236 Sworn Personnel from 88 Agencies Around the US	Department Wide Department Leadership Supervisors	Organization Wide Fairness Supervisor Fairness Department Leadership Fairness Diversity Fairness
Sun, Wu, Liu, & Van Craen (2018)	N=713 Chinese Officers	Supervisors	Internal Procedural Fairness
Sun, Wu, Van Craen, & Hsu (2018)	N = 584 Officers of the New Taipei City Police Department	Supervisors	Internal Procedural Fairness
Tankebe (2014)	N = 284 Frontline Officers in Ghana	Senior Officers	Internal Procedural Fairness

Trinkner, Tyler, & Goff (2016)	N = 590 Officers from a Large Urban Police Force	Department Policy Supervisors Peers	Procedurally Fair Organizational Climate (Formative Index)
Tyler, Callahan, & Frost (2007)	N = 209 City & Federal Law Enforcement Agents; 210 Soldiers in a combat setting	Organizational Policy Supervisors	Fairness of Supervisor Decision Making Fairness of Supervisor Interpersonal Treatment Fairness of Organizational Decision Making Fairness of Organizational Interpersonal Treatment
Van Craen & Skogan (2017)	N = 714 Officers and Sergeants of the Chicago Police Department	Supervisors	Internal Procedural Fairness
Wolfe & Nix (2016)	N = 567 Deputies from a Southwestern Sheriff's Office	Department Policy Command Staff	Organizational Fairness (Composite Measure of PF, DF, & IF)
Wolfe & Nix (2017)	N = 510 Deputies from a Southwestern Sheriff's Office	Supervisors	Supervisor Procedural Unfairness
Wolfe, Rojek, Manjarrez, & Rojek (2018)	N = 868 U.S. Border Patrol Agents	Sector Leadership Supervisors	Supervisor Procedural Fairness Sector Leadership Procedural Fairness
Wu, Sun, Chang, & Hsu (2017)	N = 584 Officers of the New Taipei City Police Department	Supervisors	Procedural Fairness Received from Supervisors
Wu, Sun, Van Craen, & Liu (2017)	N=713 Chinese Officers	Supervisors	Procedural Accountability Received from Supervisors

separate measures of internal *procedural* fairness, scholars diverged on both the number and type of sources captured. Studies that only captured a single source tended to focus on the procedural fairness of supervisors (Haas et al., 2015; Sun et al., 2019; Van Craen & Skogan, 2017),[7] although a handful of studies have focused solely on the procedural fairness of senior officers or department policy (Tankebe, 2014b; Wolfe & Piquero, 2011). Other studies have captured the procedural fairness of multiple sources, but then diverge over whether to combined multiple sources into a single measure (Myhill & Bradford, 2013), constructed a formative index to represent a procedurally fair organizational climate (Trinkner et al., 2016), or treat each fairness source as its own latent variable (Bradford & Quinton, 2014; Rosenbaum & McCarty, 2017). In effect, research has diverged over whether or not each fairness source should be treated as a unique dimension of internal procedural fairness.

Implications of Divergent Measures

These divergences in how we measure procedural fairness in police organizations reflect a disagreement in how to conceptualize procedural fairness within police departments. Take for instance, the assumptions inherent to a single measure of procedural fairness that combines items from various sources. At a conceptual level, the single-factor approach assumes that regardless of source, individuals form a single procedural fairness judgement and it is that singular judgement that influences officer

[7] Even when measuring the procedural fairness of the same source within a police department, scholars are split on whether to consider the underlying construct "Supervisor Procedural Fairness" (Wolfe & Nix, 2017; Wu et al., 2017, 2019) or "Internal Procedural Fairness" (Haas et al., 2015; Sun et al., 2019; Van Craen & Skogan, 2017).

attitudes and behaviors. This means that for researchers capturing internal procedural fairness on surveys, the validity of scale items is not affected by the source of fairness they reflect. From a policy perspective, if internal procedural fairness is a single, overarching judgement, then we should expect that interventions targeting one domain will have a general effect on all outcomes regardless of whether we target the behavior of supervisors or change the policies surrounding officer discipline.

Contrast this with a multi-factor approach, which assumes that individuals form multiple, interrelated judgements of procedural fairness. Under such a conception, a measure of internal procedural fairness would need to capture the elements of procedural fairness from all sources of fairness rather than a single source, as items measuring the fairness of supervisors would not reflect the procedural fairness of peers or department leadership. From both a theory and policy perspective, the multi-dimensional conception opens up the potential for sources of procedural fairness to have differential effects on particular outcomes. That is to say, it is possible that peer procedural fairness affects some domains (i.e. job satisfaction) but not others (i.e. support for democratic policing). This implies that departments seeking to build support for specific policies through procedurally fair practices will need to consider which sources to use to deliver interventions.

Current Study

As research continues to highlight the importance of fairness in shaping police officer attitudes and behaviors, and policy makers build upon the findings of this literature, it is necessary to reconcile these divergent conceptions of procedural fairness.

In this study, I compare three approaches to measuring internal procedural fairness within police departments using the same set of response items from three sources of procedural fairness. I first consider the standard approach of measuring internal procedural fairness through a single latent construct. Under such a conception, measures from all sources of fairness reflect a single judgement of internal procedural fairness. That is to say, the first approach thus assumes that items measuring the procedural fairness of supervisors and items measuring the procedural fairness of department policy are influenced by variation in the same underlying concept. Because any item from any source could theoretically be used to measure the same underlying construct, the one-factor model asserts that a valid measure of internal procedural fairness measures is not compromised if items only measure the fairness of a single source.

For the second approach, I consider Tyler and Blader's (2003) distinction between formal and informal sources of fairness, conceptualizing internal procedural fairness as two interrelated latent variables. Under this conception, measures of internal procedural fairness must differentiate between formal and informal sources within an organization. The official policies of a department, as well as statements and behaviors of agency leadership, can be thought of as formal sources of fairness (Tyler & Blader, 2003). A key feature of formal sources of fairness is they are likely to be constant across time, situation and people (Blader & Tyler, 2003c, p. 115). Conversely, informal sources of procedural fairness tend to be more dynamic, based on the unique relationship that forms between an employee and their supervisor or peers (Blader & Tyler, 2003c). Judgments about the fairness of informal sources are shaped by the implementation of the rules and procedures

(Tyler & Blader, 2003). From a measurement standpoint, this conceptual definition of procedural fairness suggests the core concept should be measured through two latent variables. Measures of procedural fairness from informal sources, like supervisors and peers, reflect the same underlying latent factor, while measures of procedural fairness from formal sources, such as the fairness of department policy, reflect a separate latent factor that is correlated with the first.

The last approach I consider further delineates between sources of fairness, treating each source as its own, separate variable. Under this conceptualization, internal procedural fairness is treated as three interrelated latent factors representing the fairness of peers, department policy, and supervisors.[8] This multi-dimensional view of internal procedural fairness deviates from the idea that there is a singular procedurally fair organizational culture. Instead, by treating judgements for each source as a unique latent variable, this approach to conceptualizing and measuring internal procedural fairness allows the various sources to vary freely and potentially offer conflicting information regarding the procedural fairness of an organization.[9] Because this conceptualization assumes that procedural fairness is a mezzo-level judgement (i.e. unique for each source of internal procedural fairness), a full measure of the construct should reflect separate latent variables for each source of fairness. Additionally, this means that measures of

[8] Under this conception, measuring only these three sources constitutes an incomplete measure of internal procedural fairness, as it does not capture the fairness of department leadership. This fourth source of internal procedural fairness was not included in the current study due to data limitations.

[9] For example, a police officer could perceive their immediate supervisor as procedurally unfair, but feel that their peers treat them in a procedurally fair manner.

internal procedural fairness must both capture and distinguish between all sources of procedural fairness within police departments.

To assess these three conceptualizations of procedural fairness, I first compare the results of measurement models based on the assumptions of the three conceptualizations of procedural fairness. Comparing relative and incremental model fit statistics, I will determine which conceptual structure best explains data collected from a large, midwestern police force (Bollen, 1989; Kenny, 2015; Kenny, Kashy, & Bolger, 1998). I then explore the associations between the three conceptualizations and several outcomes the literature indicates are associated with internal procedural fairness. Comparing fit statistics and explained outcome variances, I examine the implications of these three conceptualizations of internal procedural fairness.

Methods

Procedure

For this study, I employ data collected from the patrol division of a large midwestern metropolitan police force. The data were collected as part of a larger project seeking to understand internal organizational fairness within police departments (Trinkner et al., 2016). Officers and sergeants from the patrol division were approached by the original research team during role call and asked to complete the survey. They were informed that the command staff had requested the researchers to conduct the project and that the research team had developed the survey. The survey was anonymous, and respondents were assured that the raw data would not be publicly released and would be viewable only by the research team. Respondents who were unable to complete the

questionnaire at roll call were given an envelope to return the survey after completion. Additionally, the research team left several extra survey packets at each station for any officers who did not attend a roll call or who lost their packets. The research team followed up at each roll call approximately a week after the survey was initial distributed to remind officers about the survey, answer questions, and distribute additional packets. While officers were not directly compensated for their participation, they were informed that a $20 donation would be made for each completed survey to a memorial foundation that provides services and support for families of killed or injured police officers. The final sample contained 786 officers and sergeants from the patrol division.

Participants

Descriptive statistics of the sample demographics are provided in Table 2.2 (see Appendix A for descriptive statistics of individual scale items). Of the 786 officers who participated in the study, 681 provided adequate demographic information for inclusion in this study.[10] 19% of participating officers were female (n=131) and 81% (n=550) were male. Just over half the sample was White (n=325, 48%), while 17% of the sample was African American (n=115), 20% was Hispanic/Latino (n=137), and 15% of respondents identified as another race/ethnicity or more than one race/ethnicity(n=104). About 66% of respondents graduated from a four-year college program, and about 10% of responses

[10] Of the 786 officers and sergeants who participated in the original research, 212 did not disclose their age or years of service. Rather than exclude over 25% of the sample, I chose to omit both age and years of service as covariates. Future research unpacking the associations presented in this analysis should consider the role of age and officer tenure in shaping relationships between sources of internal procedural fairness and IPF's numerous outcomes.

came from sergeants (n=65). As with previous studies using this same dataset (Trinkner et al., 2016), the sample characteristics adequately match the overall demographic makeup across the patrol division of the department surveyed.

Survey Instrument

In addition to collecting demographic information (e.g. race, gender, education), the survey contained 249 questions pertaining to respondent's job satisfaction, perceptions of departmental rules and policies, interpersonal experiences with supervisors, peers, and command, officer self-image and wellbeing, and attitudes towards the community. Multiple items were included to tap into the four aspects of procedural fairness (dignity and respect, trustworthy motives, neutrality, and voice) among direct supervisors and peers. Additionally, officers were asked about their perceptions of the fairness of department policy surrounding promotion and discipline. Finally, the surveys included items designed to tap into respondents support for engagement in the four aspects of procedural fairness when interacting with citizens.

Table 2.2
Sample Demographics

Variable	*%*	*n*
Gender (Female = 1)	19.24	131
Rank (Sergeant = 1)	10.43	71
Education (College Graduate = 1)	66.37	452
Race		
White	47.72	325
African American	16.89	115
Hispanic	20.12	137
Other	15.27	104
N=681		

Measures

Drawing upon prior research and theorization, I identify three potential sources of procedural fairness within police departments: department policy and leadership, experiences with direct supervisors, and experiences with peers. Levels of department procedural fairness are measured using eight Likert-type items assessing the quality of treatment and decision making during three types of formal decisions: promotion (*How fairly are promotions given in this department?*), discipline (*How fairly would you be treated in a formal disciplinary investigation?*), and job assignment (*How fairly are job assignments given out in this department?*). I coded the items such that higher scores reflect higher levels of department procedural fairness. Independent of the other sources, the eight-items demonstrate strong internal consistency (coefficient alpha = 0.90).

Perceptions of supervisor engagement in procedurally fair practices is measured using eight Likert-type items assessing the quality of treatment and decision making of respondent's immediate supervisors. The selected items tap into each of the four aspects of procedural fairness (see Mazerolle et al., 2014; Nagin & Telep, 2017; Tyler, 2011): dignity and respect (*How respectful are your supervisor(s) of you as a person?*), trustworthy motives (*How much do your supervisor(s) prejudices influence him or her when making decisions that affect you?*), neutrality (*How often do your supervisor(s) treat you the same way they treat everyone else when making decisions?*), and voice (*How often do your supervisor(s) take the time to listen when you express your views?*). All items are coded such that higher scores reflected higher levels of procedural fairness

from supervisors. The eight items measuring supervisor procedural fairness have strong internal consistency (coefficient alpha = 0.93).

To measure peer procedural fairness, I rely on eight Likert-type items assessing the quality of treatment and decision making the respondents experienced when interacting with peers. Repeating the items measuring supervisor fairness, the items tap the four key aspects of procedural fairness: dignity and respect (*How much do officers in this department respect you as a person?*), trustworthy motives (*How trustful are you of the officers in this department?*), neutrality (*How often do officers in this department treat you the same way they treat other officers?*), and voice (*How often do your peer(s) ask for your opinion on issues?*). Items are coded such that higher scores reflected higher levels of peer procedural fairness. The eight items measuring peer procedural fairness demonstrate strong internal consistency (coefficient alpha = .92).

Three dependent variables are used to assess the differential impacts of the various sources of fairness: job satisfaction, organizational efficiency, and support for procedurally fair policing. Job satisfaction is measured using four Likert-type items ranging from "Very Dissatisfied" to "Very Satisfied" (*Please rate your overall satisfaction with your present work assignment*). The four items measuring job satisfaction display adequate internal consistency (coefficient alpha = 0.75). Organizational efficiency is measured using eight items assessing how often officers engage in in-role behaviors (*How often do you adequately complete your required work projects?*) and extra-role behaviors (*How often do you volunteer to do things that are not required as part of your job description to help the [department]?*). Responses were

recorded on a five-point Likert-type scale ranging from "Never" to "Always." The eight items measuring organizational efficiency display appropriate internal consistency (coefficient alpha = 0.82). Support for procedurally fair policing is measured using eight items capturing officer attitudes towards engaging in each of the four aspects of procedurally fair policing: treating citizens with dignity and respect (*When interacting with community residents, how important is it for you to treat everyone with respect regardless of how they act?*), communicating trustworthy motives (*How necessary is it to give everyone a good reason for why they are being stopped, regardless of their respect for the police?*), demonstrating neutrality (*When interacting with community residents, how important is it to treat all community residents the same way?*), and allowing voice (*When interacting with community residents, how important is it to allow community residents to voice their opinions when you make decisions that affect them?*). All items are measured on five-point Likert-type scales that are coded such that lower scores reflected less support for procedurally fair policing practices. The ten items tapping officer support for procedurally fair policing display strong internal consistency (coefficient alpha = 0.92).

I also introduce several control variables when assessing the relationship between the various sources of internal procedural fairness and the three outcomes described above to guard against potential spuriousness. Respondent's biological gender is measured using a single dummy variable (1=female). Additionally, three dummy variables are included to capture differences in the outcomes across racial/ethnic groups: African American (1=*yes*), Hispanic/Latino (1=*yes*), and any other minority (1=*yes*). The

reference category for race/ethnicity is white. I also include variables capturing the respondent's rank (1=*Sergeant*) and level of education (1=*College or Higher*).

Analysis Plan

I begin my analysis by examining three possible models for measuring internal procedural fairness: a one-factor model where measures from all three sources tap the same underlying construct, a two-factor model where formal and informal sources of fairness influence separate, related factors, and a three-factor model where items from each source tap their own underlying factor. Using confirmatory factor analysis, I compare the relative and absolute fit of each measurement model to determine the most appropriate specification.[11] In the second part of my analysis, I compare the results of structural equation models using the three measurement approaches to predict several outcomes associated with internal procedural fairness. Such an analysis allows for a comparison of relative and absolute fit between models and can reveal relationships between specific sources of internal procedural fairness and these various outcomes that might be masked when all sources are combined. Given the presence of missing data on some of the items measuring these various constructs, I rely on the full information

[11] As part of the model selection process, I examined the modification indices to assess local areas of misfit between the models and the data. This examination revealed two potential sources of misfit. First, three of the highest modification index values indicated error correlation between items tapping the same domains within department policy procedural fairness (i.e. job assignment, promotion, discipline). Second, the modification indices indicated the presence of error correlation for several items that shared question roots (i.e. the questions began with the phrase "*How often do your supervisors*" or "*How often do officers in this department*"). To address the first source of misfit, I freely estimate the error correlations between items tapping the same domain of department policy fairness. To address the second source of misfit, I freely estimate the correlation between items with the same stem. See Appendix B for a detailed discussion of this step of the model selection process and justifications for the measurement decisions described here.

maximum likelihood estimator.[12] All latent variables are standardized.[13] The next section details the results of my analyses.

Results

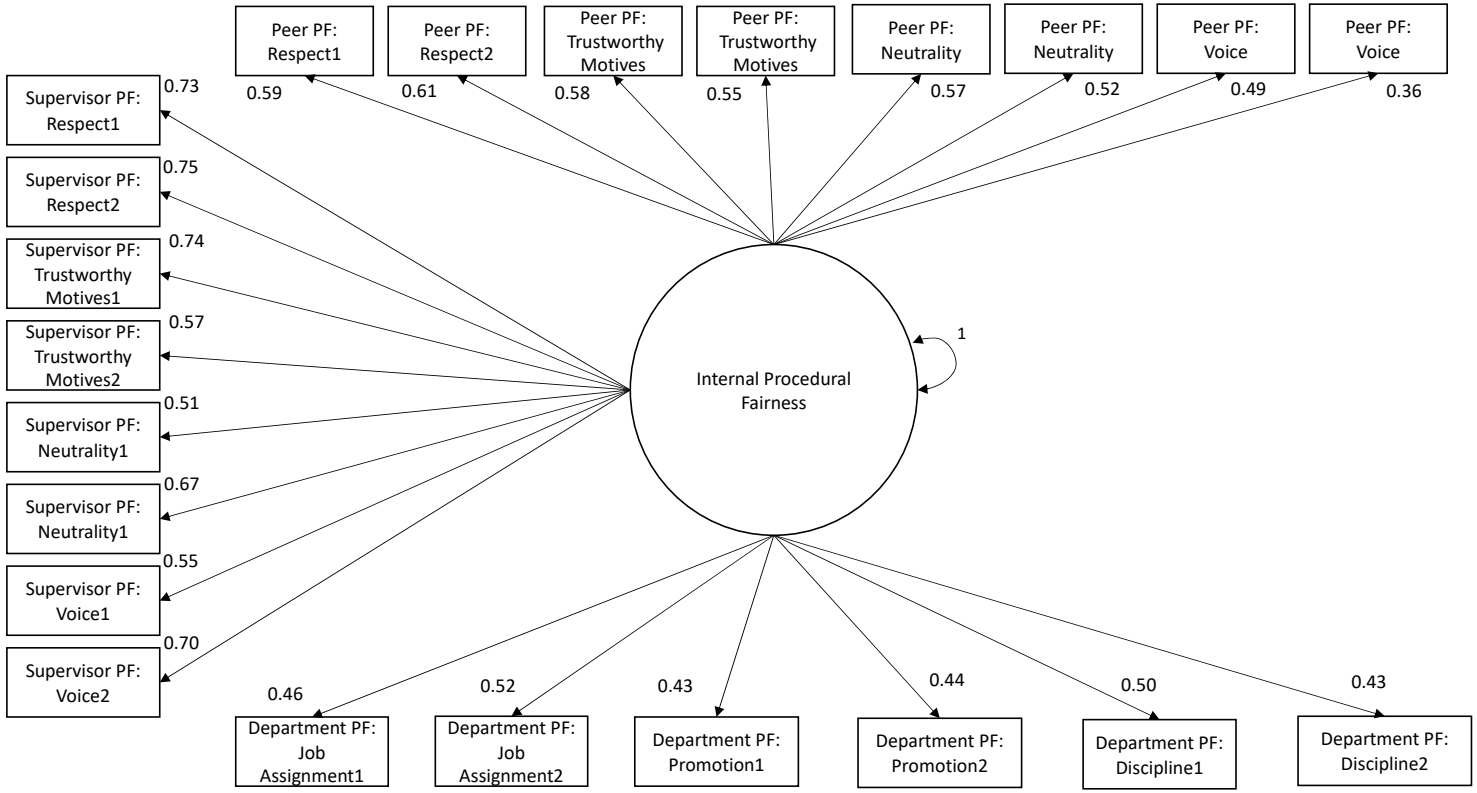
To compare these three conceptualizations of internal procedural fairness, I first compare the relative and absolute fit of the measurement models. The first conception of internal procedural fairness views items measuring fairness of department policy, supervisors, and peers as outcomes of the same underlying construct. As shown in Figure 2.1, there are clear differences in how well items from each source of procedural fairness load onto a unidimensional factor. The standardized factor loadings for supervisor procedural fairness range from 0.51 to 0.75, while the loadings for department procedural fairness range from 0.43 to 0.52 and the loadings for peer procedural fairness range from

[12] FIML is a preferred method for handling missing data as it tends to efficiently produce unbiased estimates when data is missing at random or missing completely at random (Cox & Hinkley, 1979; Schafer & Graham, 2002) and performs similarly to multiple imputation (Collins, Schafer, & Kam, 2001; Larsen, 2011). Using this approach, cases are only excluded if they are missing information on exogenous variables (e.g. demographic characteristics). While all 786 officers provided sufficient information to estimate the scales I utilize in this study, 105 officers did not provide their gender, race/ethnicity, rank, or education. I therefore use all 786 officer responses when comparing the three measurement models but omit the 105 officers with missing demographic information for the latent path analysis portion.

[13] Rather than scaling factor loadings by constraining a marker variable, the variance of a standardized latent variables is constrained to one while leaving all the loadings free to vary. Standardization is useful when the units of measurement are not directly interpretable, as the coefficients of the structural model can be interpreted in relation to standard deviation changes in the latent variable. (Kenny, 2011b).

Figure 2.1

Internal Procedural Fairness Measurement Model, 1-Factor



0.36 to 0.61.[14] The imbalance in factor loadings suggests that there may be additional dimensions to the underlying construct that are missed in a unidimensional measure. Incremental fit statistics indicate that a single factor measure offers poor fit for the observed data ($RMSEA_1 = 0.122$, $CFI_1 = 0.801$, $TLI_1 = 0.729$, $SRMR_1 = 0.118$). Relative fit statistics are also obtained to compare this first model against subsequent models (AIC = 35939.810, BIC = 36423.082). Collectively, these findings suggest internal procedural fairness is likely not unidimensional.

A second conception draws upon Tyler and Blader's (2003, see also Blader & Tyler, 2003a, 2003b) distinction between two types of fairness sources within groups and organizations: formal and informal. This implies that measures of internal procedural fairness should capture two interrelated factors: the formal sources of fairness such as the official rules and procedures of the organization, and the informal sources of fairness such as the treatment and decision making of supervisors and peers. When internal procedural fairness is measured using a two-factor model (Figure 2.4), splitting formal and informal sources of fairness, the model performs substantially better (AIC = 35520.343, BIC = 36008.217). Separating internal procedural fairness into two correlated factors results in a large decrease in both the AIC and BIC fit statistics ($\Delta AIC_{12} = -419.467,\ \Delta BIC_{12} = -414.865$), indicating the two-factor model substantially improves model fit (Burnham & Anderson, 2004). While this model is better

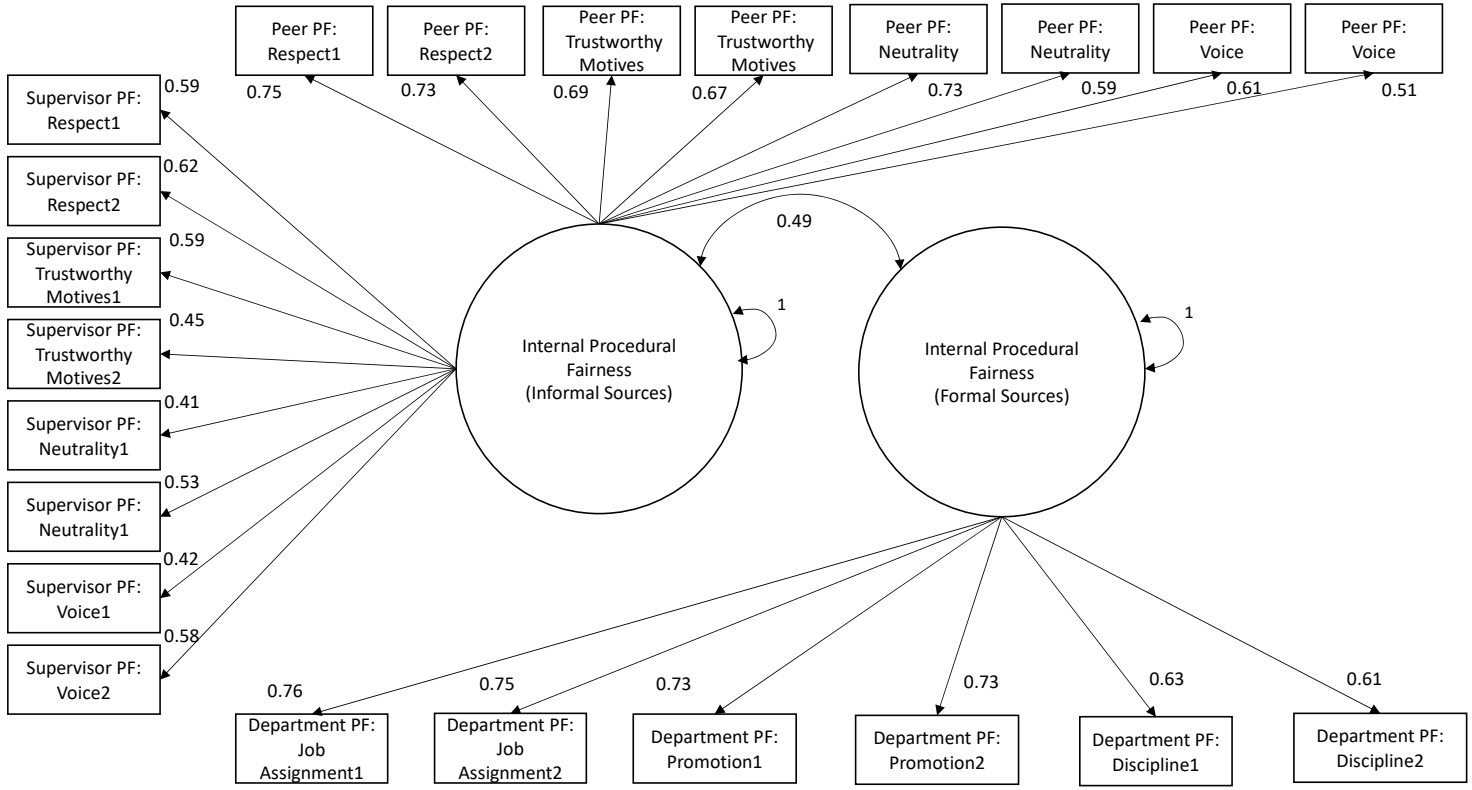
[14] There is substantial disagreement in the literature as to what is an appropriate threshold for factor loadings. Chen and Tsai (2007) place the threshold at 0.5 (see also Hulland, 1999; Truong & McColl, 2011), while Hair and colleagues (2006; see also Chin, Gopal, & Salisbury, 1997)) argue that in practice a threshold of 0.6 is acceptable. Under ideal conditions, Hair and colleagues (2010) recommend a threshold of 0.70, however this is based on the assumption of uncorrelated errors. Given the presence of correlated errors discussed in Footnote 11 and Appendix B, I evaluate the loadings against a 0.6 threshold.

relative to the unidimensional approach, the incremental fit statistics indicate that the two-factor model offers a relatively poor fit for the data ($RMSEA_2 = 0.108$, $CFI_2 = 0.845$, $TLI_2 = 0.788$, $SRMR_2 = 0.116$). It is worth noting, however, that all the incremental indices indicate the two-factor model outperforms the unidimensional approach ($\Delta RMSEA_{12} = -0.014, \Delta CFI_{12} = 0.044, \Delta TLI_{12} = 0.056,\ \Delta SRMS_{12} = 0.002$).

The factor loadings offer some indication of the source of poor model fit. The coefficients for items measuring department policy procedural fairness range from 0.63 to 0.76 suggesting, a substantial improvement over the loadings from the unidimensional model that supports the notion of distinguishing between formal and informal sources. Turning to the measures of informal procedural fairness, a clear pattern emerges between the measures of peer procedural fairness and supervisor procedural fairness. The loadings for the latent variable representing informal sources of procedural fairness capture two sources of fairness: supervisors and peers. As shown in Figure. 2.2, the loadings for the measures of supervisor procedural fairness range from 0.41 to 0.62 with an average loading of 0.51, while the loadings for the measures of peer procedural fairness range from 0.51 to 0.75 with an average loading of .66. These factor loadings suggest that nearly all the items measuring supervisor procedural fairness are not tapping the latent variable assumed to be the overarching judgement of procedural fairness from informal sources. Collectively, these results offer mixed support for the two-dimensional approach to measuring internal procedural fairness, suggesting that splitting department policy fairness off from the informal sources of fairness is appropriate, but that there remains substantial misfit in relation to the two informal sources of fairness.

Figure 2.2

Internal Procedural Fairness Measurement Model, 2-Factor



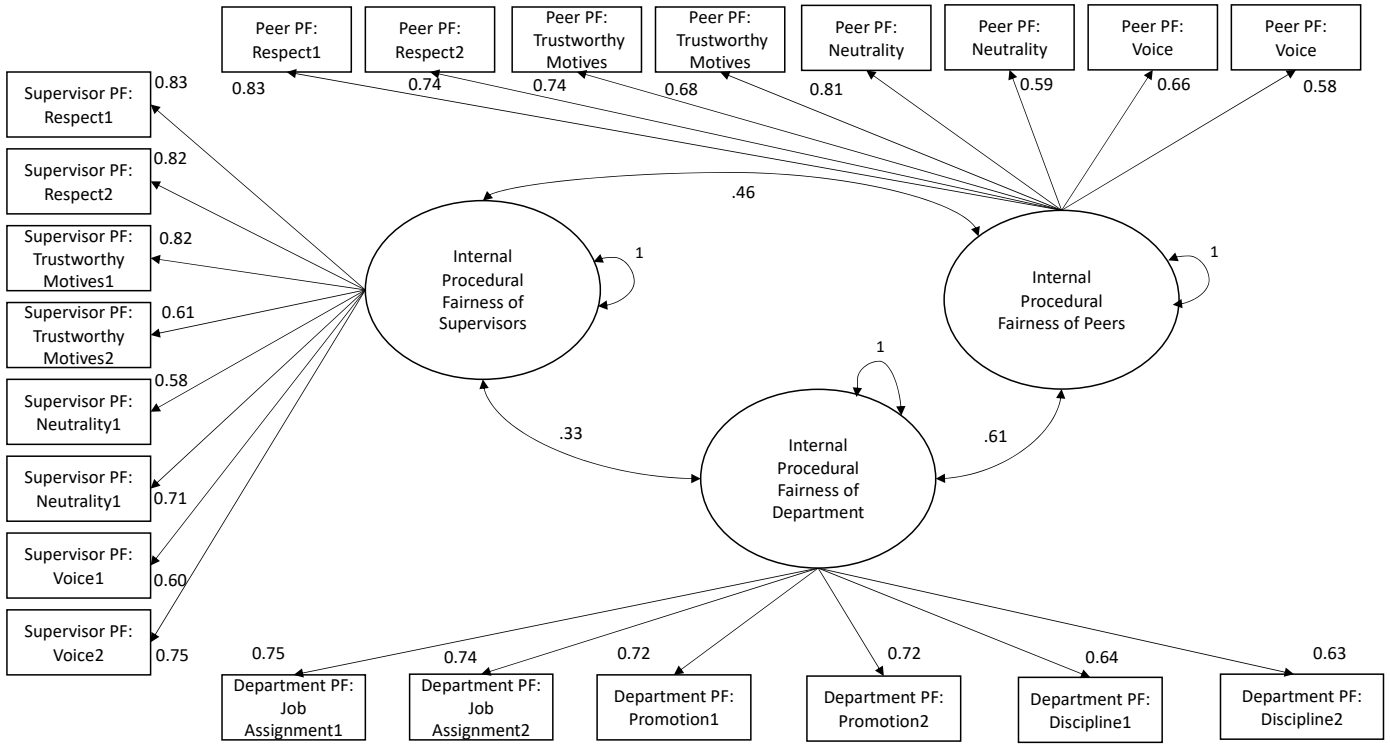
The final conceptualization I examine views internal procedural fairness as a series of interrelated mezzo-level judgements, where officers form unique but related assessments regarding the procedural fairness of each source. As the current analysis focuses on items measuring three sources of procedural fairness (department policy, supervisors, peers), this third approach to measurement treats internal procedural fairness as three distinct latent variables. A three-factor model of internal procedural fairness, treating department policy fairness, supervisor fairness, and peer fairness as distinct, correlated constructs, performs better than both the one-factor and two-factor models presented above (AIC = 34329.262, BIC = 34826.341). There is a large decrease in both the AIC and BIC between the two-factor and three-factor model ($\Delta AIC_{23} = -1191.081$, $\Delta BIC_{23} = -1181.876$), indicating the three-factor model substantially improves model fit. Examining the incremental fit statistics, the results of the three-factor CFA fit the data well ($RMSEA_3 = 0.046$, $CFI_3 = 0.972$, $TLI_3 = 0.961$, SRMR = 0.044).[15] The incremental fit statistics also indicate substantial improvements over the previous two models, with a decrease in the RMSEA and SRMS and an increase in the CFI and TLI ($\Delta RMSEA_{23} = -0.062,\ \Delta CFI_{23} = 0.127,\ \Delta TLI_{23} = 0.173.\ \Delta SRMS_{12} = -0.072$).

Turning to the factor loadings reported in Figure 2.3, results of the CFA indicate that nearly all items load onto their respective latent variables at or above 0.60. As we might expect, there are negligible changes in the loadings for department policy procedural

[15] While there is some debate over appropriate thresholds for overall fit statistics, scholars tend to view an RMSEA < 0.08 and a CFI and TLI > 0.90 to indicate a good fitting model (Bollen, 1989; Lomax & Schumacker, 2004)

Figure 2.3

Internal Procedural Fairness Measurement Model, 3-Factor



fairness items between the two-factor and three-factor model. Under the three-factor model, the loadings for the measures of department policy fairness are between 0.63 and 0.75. Examining the two informal sources of procedural fairness, the three-factor CFA indicates substantial improvements, with the measures of peer fairness ranging from 0.58 to 0.83 with a mean of 0.70 and the measures of supervisor fairness ranging from 0.58 to 0.83 with a mean of 0.72. Collectively, the results of these three measurement models indicate that the three-factor solution (i.e. treating each source as a unique judgement) is offers the best explanation for the relationship between these indicators of internal procedural fairness. I next turn to an exploration of the association between each conception of internal procedural fairness and several outcomes of fair internal practices.

Table 2.3. Standardized Parameter Estimates from SEM Models of Job Satisfaction

	One-Factor		Two-Factor		Three-Factor	
	β	s.e	β	s.e	β	s.e
IPF	0.650**	0.03				
Formal IPF			0.550**	0.03		
Informal IPF			0.228**	0.03		
Department IPF					0.483**	0.03
Supervisor IPF					0.286**	0.03
Peer IPF					0.031	0.03
Gender (Female = 1)	-0.01	0.03	-0.02	0.03	-0.02	0.03
Rank (Sgt = 1)	-0.04	0.08	0.06	0.08	0.04	0.07
African American	-0.12	0.06	-0.12	0.06	-0.10	0.06
Hispanic	-0.08	0.06	-0.08	0.06	-0.08	0.06
Other	-0.20*	0.06	-0.20*	0.06	-0.18*	0.06
Education (College = 1)	0.02	0.05	0.04	0.05	0.03	0.05
R-Squared	0.455		0.522		0.540	
Chi-Square	11544.961		11544.961		11544.961	
RMSEA	0.086		0.078		0.042	
CFI	0.792		0.834		0.952	
TLI	0.752		0.797		0.940	

* $p < 0.05$, **$p < 0.01$

Differential Impact of Internal Procedural Fairness Sources

By comparing fit statistics and explained variation in outcome variables, the next part of my analysis asks whether disaggregating measures of procedural fairness reveal differential impacts from the various sources of internal procedural fairness that might be overlooked when measures from all sources are combined. Results from the models predicting job satisfaction are presented in Table 2.3. Model fit indices indicate the three-factor model fits the data relatively well (RMSEA = 0.042, CFI = 0.952, TLI = 0.940). Additionally, the fit statistics suggest that of the three measurement approaches, the three-factor model offers the best relative fit for the data.

Turning to the standardized coefficients, the findings suggest the one-factor approach may be masking underlying relationships. In both the two- and three-factor models, all internal procedural fairness measures were significantly associated with job satisfaction. This suggests that, in addition to the indirect impacts of each source through the covariance of the three IPF measures, each source of internal procedural fairness has its own unique association.

Additionally, the results presented in Table 2.3 suggest that the three-factor model is able to explain more of the variation in job satisfaction ($R^2{}_1 = 0.455,\ R^2{}_2 = 0.522,\ R^2{}_3 = 0.540$). This suggests that splitting measures of internal procedural fairness both helps parse out which sources of fairness have the largest impact on job satisfaction and that splitting sources into multiple measures offers a better overall explanation for the outcome of interest.

Table 2.3

Standardized Parameter Estimates from SEM Models of Job Satisfaction

	One-Factor		Two-Factor		Three-Factor	
	β	s.e	β	s.e	β	s.e
IPF	0.650**	0.03				
Formal IPF			0.550**	0.03		
Informal IPF			0.228**	0.03		
Department IPF					0.483**	0.03
Supervisor IPF					0.286**	0.03
Peer IPF					0.031	0.03
Gender (Female = 1)	-0.01	0.03	-0.02	0.03	-0.02	0.03
Rank (Sgt = 1)	-0.04	0.08	0.06	0.08	0.04	0.07
African American	-0.12	0.06	-0.12	0.06	-0.10	0.06
Hispanic	-0.08	0.06	-0.08	0.06	-0.08	0.06
Other	-0.20*	0.06	-0.20*	0.06	-0.18*	0.06
Education (College = 1)	0.02	0.05	0.04	0.05	0.03	0.05
R-Squared	0.455		0.522		0.540	
Chi-Square	2870.016		2365.670		1016.866	
RMSEA	0.086		0.078		0.042	
CFI	0.792		0.834		0.952	
TLI	0.752		0.797		0.940	

* $p < 0.05$, **$p < 0.01$

I next explore at the association between each conception of internal procedural fairness and two measures of organizational efficiency (Table 2.4). The three-factor model continues to fit the data better than the one- or two-factor approach. Additionally, the three-factor model offers a good overall fit for the data (RMSEA = 0.046, CFI = 0.935, TLI = 0.921). Turning to the standardized coefficients, the results highlight a major strength of the three-factor model. The one-factor model reveals a significant association between internal procedural fairness and both in-role and extra-role behaviors. However, when IPF is split into formal and informal sources, I find that the relationship observed in the single-factor model may be driven entirely by informal sources of fairness. Both coefficients for formal procedural fairness were non-significant, suggesting the fairness of department policies may not have a direct association with officer engagement in in-role and extra-role behaviors. The three-factor model, which further delineates between the informal sources of fairness, reveals that much of the observed association between internal procedural fairness and support for extra-role behaviors can be attributed to peer procedural fairness $\left(\beta_{dpf} = -0.025,\ p > 0\ .05;\ \beta_{spf} = 0.169,\ p < 0.01;\ \beta_{ppf} = 0.255; p < 0.01\right)$. This suggests that experiences with specific fairness sources may be particularly salient in shaping engagement in in-role and extra-role behaviors.

In contrast to the models of job satisfaction, the results of the SEM models predicting in-role and extra-role behaviors indicate only minor shifts in the amount of variation each measure of internal procedural fairness can explain in the two outcomes. The single factor model explains about 12.4% of the variance for in-role behaviors and

Table 2.4

Standardized Parameter Estimates from SEM Models of Organizational Efficiency

	One-Factor				Two-Factor				Three-Factor			
	In-Role		Extra-Role		In-Role		Extra-Role		In-Role		Extra-Role	
	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e
IPF	0.349**	0.02	0.349**	0.03								
Formal IPF					-0.101	0.02	-0.029	0.03				
Informal IPF					0.423**	0.02	0.382**	0.03				
Department IPF									-0.105	0.06	-0.025	0.04
Supervisor IPF									0.214**	0.03	0.169**	0.04
Peer IPF									0.265**	0.02	0.255**	0.03
Gender (Female = 1)	0.054*	0.025	0.084**	0.032	0.063*	0.025	0.091**	0.032	0.060*	0.025	0.088**	0.032
Rank (Sgt = 1)	-0.049	0.067	-0.064	0.082	-0.066	0.067	-0.067	0.082	-0.082	0.067	-0.087	0.082
African American	-0.024	0.056	-0.073	0.070	-0.054	0.055	-0.102	0.069	-0.048	0.055	-0.093	0.069
Hispanic	-0.029	0.052	0.052	0.065	-0.027	0.052	0.055	0.064	-0.026	0.051	0.054	0.064
Other	-0.024	0.049	-0.010	0.062	-0.053	0.049	-0.039	0.061	-0.042	0.049	-0.025	0.061
Education (College = 1)	0.044	0.042	0.10*	0.052	0.039	0.042	0.099	0.052	0.037	0.042	0.097	0.052
R-Squared	0.124		0.128		0.148		0.152		0.134		0.140	
Chi-Square	3261.311				2758.583				1431.847			
RMSEA	0.079				0.072				0.046			
CFI	0.798				0.835				0.935			
TLI	0.764				0.804				0.921			

* p < 0.05, **p < 0.01

about 12.8% of the variance for extra-role behaviors. Meanwhile, the three-factor model explains about 13.4% of the variance for in-role and 14.0% of the variance for extra-role behaviors. The results suggest the one- and two-factor solutions may mask some of the relationships at play, but does not hinder the model's ability to explain variation in organizational efficiency behaviors.

Finally, I examine a policing-specific outcome of internal procedural fairness: support for procedurally fair policing practices. The three-factor approach continues to offer a better fitting model for the observed data over the one- and two-factor approaches. Fit statistics suggest the three-factor approach fits the data relatively well (RMSEA = 0.047; CFI = 0.936; TLI = 0.925). Turning to the standardized coefficients, the results again highlight a potential drawback to oversimplifying the factor structure of internal procedural fairness. When treated as a single factor, internal procedural fairness has a strong association with support for procedurally fair policing. As the judgements are split apart by sources, however, it becomes clear that this direct association is driven by peer procedural fairness, while both department procedural fairness and supervisor procedural fairness have a non-significant direct association with the outcome.[16]

Similar to the models predicting organizational efficiency, the models presented in Table 2.5 suggest that splitting measures of IPF by fairness source does not

[16] It is important to note that the analysis presented here merely demonstrates the implications of oversimplifying measures of internal procedural fairness. The results should not be taken as evidence that department and supervisor procedural fairness have no association at all with support for procedurally fair policing. As I discuss in Chapter 3 of this manuscript, there are several variables that mediate the association observed here. It is likely that department and supervisor procedural fairness indirectly influence support for procedurally fair policing practices through these mediators.

Table 2.5

Standardized Parameter Estimates from SEM Models of Support for Procedurally Fair Policing

	One-Factor		Two-Factor		Three-Factor	
	β	s.e	β	s.e	β	s.e
IPF	0.180**	0.040				
Formal IPF			0.068	0.05		
Informal IPF			0.151**	0.05		
Department IPF					0.087	0.06
Supervisor IPF					-0.006	0.06
Peer IPF					0.194**	0.05
Gender (Female = 1)	0.040	0.053	0.051	0.053	0.053	0.053
Rank (Sgt = 1)	-0.045	0.135	-0.052	0.136	-0.062	0.137
African American	0.544**	0.110	0.524**	0.110	0.526**	0.110
Hispanic	0.196	0.101	0.197	0.101	0.197	0.101
Other	0.155	0.096	0.135	0.096	0.138	0.097
Education (College = 1)	-0.126	0.086	-0.125	0.086	-0.125	0.086
R-Squared	0.084		0.090		0.088	
Chi-Squared	3234.505		2742.868		1425.756	
RMSEA	0.079		0.072		0.047	
CFI	0.812		0.845		0.936	
TLI	0.783		0.818		0.925	

* p < 0.05, **p < 0.01

substantially improve the model's ability to explain variation in our outcome variables. All three models explained about 8.5%, again suggests that oversimplifying the factor structure of internal procedural fairness may mask the effect of a particular source but does not always hinder the models' ability to explain outcome variation.

Discussion & Conclusion

Whether examining job satisfaction, adherence to organizational policies, support for democratic policing, or any one of a dozen other outcomes, researchers continually find that police officers are sensitive to issues of fairness within their departments (Bradford & Quinton, 2014; Bradford et al., 2014; Farmer et al., 2003; Trinkner & Tyler, 2020; Trinkner et al., 2016; Wolfe & Piquero, 2011). As scholars have continued to explore the various correlates of internal procedural fairness, divergences in how to conceptualize and measure procedural fairness have emerged. Study by study, researchers differ in both how many sources of procedural fairness to measure and how to conceptualize the relationships between sources of fairness. Using data from a large midwestern police department, I compared three possible constructions of a procedural fairness measure. Broadly, my analysis indicates that it is appropriate to both conceptualize and measure internal procedural fairness as a series of interrelated judgements as to the fairness of multiple sources.

Studies of internal procedural fairness have approached measuring the core construct in numerous ways. Some measured IPF as a single judgement (Myhill & Bradford, 2013; Trinkner et al., 2016) or an aspect of a larger organizational fairness construct (Nix & Wolfe, 2017; Wolfe & Piquero, 2011). Others have separated IPF

judgements into multiple measures, delineating between the sources by which officers experience fairness (Bradford & Quinton, 2014; Rosenbaum & McCarty, 2017). Each of these approaches to measuring the core construct has significant theoretical and practical implications, as the assumptions each conception shape and limit the interpretation and generalizability of analysis. If, for example, IPF is conceptualized as unidimensional, then we are assuming that the fairness of each source shapes the same overall judgement. Any analysis is thus constrained to consider a singular association between IPF and whatever outcomes are under consideration. Further, a unidimensional approach to measurement assumes that all sources of fairness will have the same relationship with whatever outcomes are under consideration. As my analysis demonstrates, such an assumption may not be sound.

In this study, I compared three approaches to conceptualizing and measuring internal procedural fairness within police departments. First, I considered a unidimensional approach to conceptualizing IPF, treating the fairness of supervisors, peers, and department policy as reflections of the same underlying judgement. I then applied Tyler and Blader's (2003) distinction between formal and informal sources of fairness, measuring internal procedural fairness as two interrelated judgements. Finally, I treated procedural fairness as a series of distinct judgements regarding the treatment and decision making of each source (Bradford & Quinton, 2014; Rosenbaum & McCarty, 2017; Wolfe, Rojek, et al., 2018). Comparing each factor structure, I find that measuring internal procedural fairness as separate judgements most appropriately represents the relationships between manifest variables.

I also compared the association between each conception of internal procedural fairness and several known outcomes of IPF such as job satisfaction and support for procedurally fair policing practices (Colquitt et al., 2001, 2005; Donner et al., 2015; Trinkner & Tyler, 2020). Consistently across outcomes, the three-factor model provides the best fitting solution. Critically for future research, my analysis also suggests that a unidimensional approach to measuring internal procedural fairness masks and misrepresents the dynamics at play. For instance, while the one-factor model reveals a positive association between internal procedural fairness and both organizational efficiency outcomes, the three-factor solution suggests that relationship is driven primarily by the fairness of peers and, to a lesser extent, supervisors. Moreover, the model predicting job satisfaction indicates that collapsing IPF measures into fewer judgements reduces the model's ability to explain variation in the outcome.

The importance of measurement decisions to both theory development and research cannot be understated. The measures used in a study reflect how we conceptualize a particular social phenomenon, shaping and limiting the results of any analysis we conduct. When measuring internal procedural fairness, scholars must consider both what sources of fairness to draw from and what the relationship between each source of procedural fairness is. This suggests that studies that use indicators of fairness from a single source, like the behavior of supervisors (Sun et al., 2019; Tankebe, 2014b; Van Craen & Skogan, 2017), are not fully capturing procedural fairness but instead only one of its dimensions. Indeed, a full and conceptually valid measure of internal procedural fairness must capture multiple latent variables reflecting judgements

regarding the fairness of all IPF sources, not just one or two. Importantly for the study of IPF, my analysis also indicates that the association between each fairness source and a variety of outcomes is likely not uniform.[17] This suggests that particular sources of fairness may be more influential than others when it comes to shaping certain attitudes or behaviors. This opens up new avenues of research investigating the differential impact of each source of procedural fairness, as well as the ways in which officers react to separate, potentially conflicting, procedural fairness judgements.

The way in which we conceptualize and measure internal procedural fairness also shapes the policy implications of this literature. Recent policy discussions have pointed to internal procedural fairness as a tool by which departments can secure officer support for a variety of reform efforts (Trinkner & Tyler, 2020; Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017). As demonstrated above, combining multiple sources into a single scale likely conflates relationships. If, for instance, we assume that measures of peer fairness and supervisor fairness capture the same underlying judgement, we might conclude that training supervisors to behave in a procedurally fair manner will be associated with increased support for procedurally fair policing (see Table 2.5). Such a conclusion, however, may be premature, as when the two sources of fairness are separated, results suggest that the association is primarily between the fairness of peers

[17] It is important to note that the associations described in this analysis omit numerous correlates and mediators of the outcomes assessed. For example, the model predicting the association between internal procedural fairness and support for procedurally fair policing omits several mediators, like organizational identity (Blader & Tyler, 2009; Bradford & Quinton, 2014; Trinkner & Tyler, 2020), or negative affect, trust in citizens, and job satisfaction (Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017). The results should not be interpreted as evidence of a direct relationship between IPF and each of the outcomes.

and support for procedurally fair policing. By separating judgements, future research can identify which fairness sources are most influential over certain outcomes, and thus best equipped to implement targeted change.

As with all research, there are several limitations to this current study that must be noted. First, while prior research has identified four potential sources of internal procedural fairness (Department Policy, Department Leadership, Supervisors, Peers), the current study did not capture officer perceptions of the procedural fairness of department leadership. As prior studies have found that department leadership has its own unique associations (Bradford & Quinton, 2014; Bradford et al., 2014; Rosenbaum & McCarty, 2017) net of other internal sources of fairnesss, future research should assess whether this source of fairness is empirically distinct from other formal sources of fairness, like department policy. Second, while the items ask generally about the fairness of job assignment, promotion, and discipline, they do not capture the four aspects generally associated with procedural fairness (dignity & respect, trustworthy motives, neutrality, voice). Further, similar items have been used in prior studies to capture the distributive fairness (i.e. outcome fairness) of organizational decision making (Wolfe & Piquero, 2011). It is possible the measures of department policy fairness captured multiple types of fairness. Future research should assess the procedural fairness of department policy along the same four aspects.

The divergence in how scholars have conceptualized and measured internal procedural fairness threatens the utility of this research to both theory and policy. Implicit in each approach to measuring fairness from multiple sources within an organization are

assumptions about how these various sources interact with each other and shape officer attitudes and behaviors. In this study, I highlighted several potential issues that may occur when sources of fairness are omitted or combined into a single measure. I argue that the most appropriate measure of internal procedural fairness is one that captures separate judgements for each sources of fairness within an organization. Further, as we continue to explore the role of internal procedural fairness within police departments, research should consider the ways in which multiple sources of internal procedural fairness interact with each other to shape police officer attitudes and behaviors.

CHAPTER 3

FAIR POLICING INSIDE & OUT: COMPARING EXPLANATIONS TO ENCOURAGE EXTERNAL PROCEDURAL FAIRNESS

In the wake of Ferguson, police departments across the United States were encouraged to promote procedurally-fair policing as a means of rebuilding public support and fostering a sense of legitimacy among community members (President's Task Force on 21st Century Policing, 2015). In the years since the 21st Century Policing Task Force released their recommendations for strengthening trust in the police, departments across the country have searched for ways to foster officer engagement in fair and respectful policing. While several departments actively pursued training programs designed to teach officers how to police in a procedurally fair manner, evaluations of these training programs are mixed at best, indicating only slight improvements in officer willingness to engage in procedurally fair policing (Rosenbaum & Lawrence, 2013; Skogan, Van Craen, & Hennessy, 2015), with effects that may decay over time (Thompson, 2016). Collectively, these evaluations suggest a need for alternative strategies to secure officer support for procedurally fair practices.

While training programs designed to increase procedurally fair policing have produced mixed results, recent scholarship has highlighted a second pathway for encouraging support for procedurally fair practices amongst the nation's police officers. For the last decade, scholars have started exploring the role of internal organizational fairness in shaping police officer attitudes and behaviors (Bradford et al., 2014; Tankebe, 2014a; Wolfe & Piquero, 2011). Studies have repeatedly found that perceptions of

internal organizational fairness are closely tied to officers' support for fair and respectful policing (Myhill & Bradford, 2013; Tankebe, 2014b; Trinkner et al., 2016; Wolfe & Piquero, 2011).

Over the past few years, two distinct models have been proposed to explain this positive association between internal and external procedural fairness. Drawing upon both social learning theory (Bandura, 1971) and general strain theory (Agnew, 1992), Van Craen (2016a, 2016b) proposed a *Fair Policing from the Inside Out* approach, which offers four mechanisms explaining the link between internal and external procedural fairness: 1) supervisor modeling, 2) the indirect influences of negative emotions, 3) the indirect influences of job satisfaction and morale, and 4) the indirect influences through an officer's trust in citizens. At the center of Van Craen's (2016a, 2016b) model is the assertion that an officer's external behavior is modeled off their interactions with their supervisors. When supervisors behave in a procedurally fair manner to their subordinates, the officers observe the behavior of their supervisor, then mimic those behaviors on the street. Several recent studies have offered some support for the four mechanisms identified by the *Inside Out* approach (Sun et al., 2019, 2018; Van Craen & Skogan, 2017; Wu, Sun, Chang, & Hsu, 2017; Wu et al., 2019).

More recently, Trinkner and Tyler (2020) offered a different explanation for the connection between internal and external procedural fairness. Applying Tyler and Blader's (2003, 2009) group engagement model (GEM) to police organizations, we argued against the proposition that investing in internal procedural fairness will inherently improve officer support for procedurally fair policing. The GEM hypothesizes

that social identity plays the key mediating role between internal procedural fairness and psychological and behavioral engagement with any group behavior. This social identity mediation hypothesis builds upon decades of social identity and organizational fairness research, asserting that internal fairness within groups acts as a bonding agent that encourages group identification and adoption of group goals. It is this process of identifying with and committing to group goals and values that in turn influences attitudes and behaviors. Thus, internal fairness influences an officer's identification with organizational goals and values (Bradford et al., 2014; Rosenbaum & McCarty, 2017), but it should be those values and goals that drive support for a specific strategy. The GEM therefore implies a second hypothesis: that it is the values and behaviors emphasized by a department that will direct officers to support specific policies and policing strategies. In this way, organizational emphasis on procedural fairness should moderate the relationship between organizational identification and officer support for procedurally fair policing.

In this study, I compare these two explanations for the relationship between internal and external procedural fairness. Empirical work supporting Van Craen's (2016a, 2016b) *Inside Out* model has thus far ignored the role of organizational identification and emphasis, making this the first test of the *Inside Out* model to include variables from conflicting theoretical models. I therefore assess how well the theoretical expectations of each model fit observations from a national survey of police officers. Further, I examine two hypotheses emanating from the GEM: the social identity mediation hypothesis and the emphasis moderation hypothesis. There is already some support for the identity

mediation hypothesis within police departments (Bradford & Quinton, 2014; Bradford et al., 2014), a finding this study seeks to replicate in a new sample. This study does, however, provide the first empirical test of Trinkner and Tyler's (2020) hypothesis that organizational emphasis on procedurally fair policing will moderate the relationship between organizational identification and support for procedurally fair policing. This study will contribute to ongoing debates as to the nature of the relationship between internal and external procedural fairness.

Encouraging Procedurally Fair Policing

Over the past decade, law enforcement across the United States has faced a legitimacy crisis, as numerous incidents of police use of deadly force against minorities under questionable circumstances eroded public trust (Jones, 2015; Pyrooz, Decker, Wolfe, & Shjarback, 2016). In the wake of these incidents, Americans were treated to an ongoing parade of videos, stories, and news reports detailing corruption, abuse of power, and violence in minority communities at the hands of police. These incidents strained police-community relationships in communities where mistrust of the police was already rampant (Tuch & Weitzer, 1997; Tyler, 2005). The loss of legitimacy and trust poses a significant challenge to policing, as citizen self-regulation and deference to legal authorities is primarily governed by a felt sense that law enforcement agents have the right to tell citizens what to do (President's Task Force on 21st Century Policing, 2015; Tyler, 2006b; Tyler & Huo, 2002). In an effort to mend broken relationships and rebuild public trust, police departments across the United States were encouraged to adopt

procedural fairness as a guiding principle for internal and external policies (President's Task Force on 21st Century Policing, 2015, p. 1).

A large body of research supported the push towards procedurally fair policing practices (Jackson et al., 2012; Nagin & Telep, 2017; Tyler, 2006b, 2011). According to procedural fairness theory, trust and compliance with legal authorities are largely shaped by a citizen's perception of the legitimacy of legal institutions and their agents. Legitimacy, in turn, is shaped primarily by the quality of treatment and decision making employed by legal authorities when interacting with citizens, a concept described as procedural fairness (Tyler, 2006b, 2011; Tyler & Huo, 2002). The impact of procedural fairness on trust and a felt sense of legitimacy has been tested across numerous contexts (Hough, Jackson, & Bradford, 2013; Jackson et al., 2012; Jackson & Sunshine, 2007; Nagin & Telep, 2017; Sunshine & Tyler, 2003), and has found support for the notion that by investing in procedurally fair behavior, police can generate trust, cooperation, and deference from citizens (Tyler, 2005; Van Craen, 2016b).

Over the past several years, numerous police departments have implemented training programs to foster procedurally fair policing practices. Initial evaluations of these programs have been somewhat mixed. While some programs have shown positive improvements to self-reported attitudes towards engaging in procedurally fair policing practices (Schaefer & Hughes, 2016; Skogan et al., 2015), others have shown mixed or null effects (A. Robertson, McMillan, Godwin, & Deuchar, 2014; Rosenbaum & Lawrence, 2013; Wheller, Quinton, Fildes, & Mills, 2013). Additionally, one evaluation suggests that the effects of the training may lessen over time (Thompson, 2016).

Collectively, the effectiveness of procedural fairness training remains mixed, with inconsistent findings across various studies (Nagin & Telep, 2017). This lack of consistency suggests departments may need an alternative approach for fostering procedurally fair policing practices.

While attempts to train procedural fairness have thus far been mixed, a second body of research points towards a possible second mechanism by which we can encourage officers to adopt these approaches. Drawing upon the external procedural fairness literature, as well as the larger organizational fairness literature developed in organizational psychology (Colquitt et al., 2001, 2005; Greenberg, 1990), several studies over the past few years have highlighted the role of *internal* organizational fairness in shaping officer attitudes and behaviors (Bradford & Quinton, 2014; Rosenbaum & McCarty, 2017; Trinkner et al., 2016). Internal fairness has been linked to a variety of outcomes, such as job satisfaction (Farmer et al., 2003), use of force decisions (Wolfe & Piquero, 2011), and self-legitimacy (Bradford & Quinton, 2014; Nix & Wolfe, 2017; Wolfe & Nix, 2017). Importantly for the purpose of fostering fair policing practices, experiences of internal procedural fairness also play an important role in shaping officer behavior. Several studies suggest that officers who experience fairness internally are more likely to support community-based policing practices (Tankebe, 2014b; Trinkner et al., 2016; Wolfe & Nix, 2016). Bradford and Quinton (2014) found that officers who perceived their supervisors to behave in a procedurally fair manner were more likely to express support for democratic policing principles. Others have found evidence of a link between internal and external procedural fairness (Haas et al., 2015; Rosenbaum &

McCarty, 2017; Van Craen & Skogan, 2017). While the association between internal to external procedural fairness has been observed across numerous studies, scholars remain split on the mechanisms connecting the two.

Fair Policing from the Inside Out

Drawing upon elements of social learning theory (Bandura, 1971), general strain theory (Agnew, 1992), and frustration-aggression theory (Dollard, Miller, Doob, Mowrer, & Sears, 1939), Van Craen (2016b, 2016a) proposed his *Fair Policing from the Inside Out* model as a way of conceptualizing the relationship between internal and external procedural fairness. Van Craen's model proposes four mechanisms to explain the link: the indirect influence of negative emotions, job satisfaction and morale, trust in citizens, and the process of officers modeling procedurally fair policing based on their interactions with their department. Internal procedural fairness is expected to shape an officer's emotional wellbeing and morale, as well as their view of citizens. Additionally, the model argues that officers learn to behave in a procedurally fair manner by modeling their treatment of citizens off of the treatment they experience from their supervisors. These four mechanisms of the *Inside Out* model are thought to be the primary drivers of the relationship between internal and external procedural fairness.

Under the *Inside Out* model, internal procedural fairness is thought to work through negative emotions and morale to shape officer support for procedurally fair policing practices. Van Craen (2016a, 2016b) argues that a lack of procedurally fair treatment from departments and supervisors introduces strain on an officer. Drawing from GST (Agnew, 1992), Van Craen concludes that officers may cope by developing

negative emotions like frustration or anger. Several studies affirm this association between experiences of procedurally unfair practices and increased negative emotions (Reynolds, Fitzgerald, & Hicks, 2018; Wu et al., 2017, 2019). Drawing upon frustration-aggression theory (Dollard et al., 1939), the *Inside Out* model suggests that officers redirect their frustration stemming from unfair interpersonal treatment from their supervisors onto citizens, as a means of coping with these negative emotions.

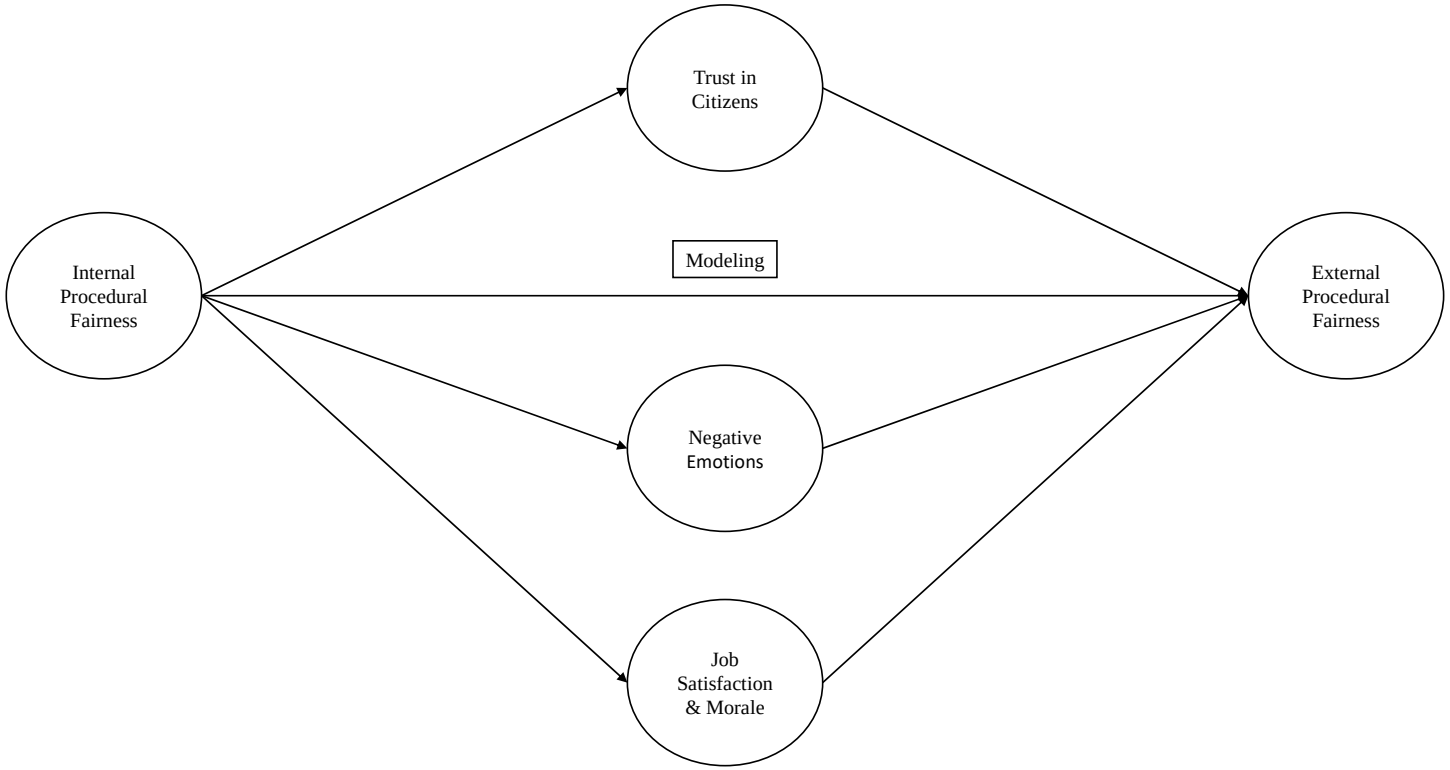
Similarly, the *Inside Out* model argues that experiences of internal fairness are expected to influence officer morale and job satisfaction. Several comprehensive reviews of the organizational fairness literature conclude that experiences of internal fairness affect employee job satisfaction (Cohen-Charash & Spector, 2001; Colquitt et al., 2001, 2005; Greenberg, 2011). Several studies within police organizations affirm this association (Farmer et al., 2003; Myhill & Bradford, 2013; Wolfe, Rojek, et al., 2018). Van Craen (2016a, 2016b) argues officers experiencing low job satisfaction and morale are not inclined to make additional effort in their work and will be unwilling to listen to citizen's views. This mechanism has received partial support, with two studies finding job satisfaction and morale mediates the relationship between internal and external procedural fairness (Wu et al., 2017, 2019).

Trust in citizens is also expected to mediate the relationship under the *Inside Out* model. Van Craen (2016a, 2016b) argues that experiences of procedural unfairness will have both a specific effect on trust in the people treating an officer unfairly, as well as a generalized effect on that officer's trust in other people. He asserts that a supervisors' behavior acts as a signal to other officers about the moral standards held by society.

Experiences of unfairness from police leadership thus suggests that it is unlikely ordinary citizens will respect the law (Van Craen, 2016b, 2016a). Lacking trust in citizens, police officers thus become less likely to deal with citizens fairly or be willing to give citizens voice during interactions (Van Craen, 2016b, 2016a; Westmarland, 2010; Yang, 2005). There is some evidence to suggest that perceptions of internal procedural fairness protect officers from developing cynical views of citizens (Trinkner et al., 2016) and may foster trust in citizens (Van Craen & Skogan, 2017). Additionally, there is some evidence to suggest that trust in citizens shapes officer willingness to engage in procedurally fair policing practices (Sun et al., 2019; Van Craen & Skogan, 2017).

Modeling is perhaps the most important mechanism for encouraging procedurally fair policing practices from a policy perspective. Van Craen (2016a, 2016b) argues that officers learn patterns of behavior for interacting with citizens by observing and imitating the behaviors of their supervisors. Several organizational studies have suggested that employees model certain behaviors off of their supervisors (J. L. Robertson & Barling, 2013; Ruiz-Palomino & Martinez-Cañas, 2011; Weiss, 1977). Applying this principle, Van Craen (2016a, 2016b) argues that when officers experience procedurally fair treatment, they experience the importance of its principles and will imitate the behaviors when interacting with citizens. Several recent studies claim to support this principle, pointing to a significant direct impact on officer support for external procedural fairness, concluding that a clear path forward for encouraging procedurally fair policing is to invest in internal procedural fairness (Sun et al., 2019; Van Craen, Parmentier, & Rauschenbach, 2017; Van Craen & Skogan, 2017; Wu et al., 2019).

Figure 3.1
Fair Policing from the Inside Out *Conceptual Model*



While some of the predictions of the *Inside Out* model have received mild support, there are reasons to be skeptical of the model as a complete explanation for the relationship between internal and external procedural fairness. For instance, officer self-legitimacy (i.e. the internal belief that officers are legitimate legal authorities) is associated with both internal procedural fairness and several of the mediators identified in Van Craen's (2016) model. There is also some evidence to suggest self-legitimacy may itself mediate the relationship between internal and external procedural fairness (Wolfe & Nix, 2016). More broadly, the *Fair Policing from the Inside Out* model omits social identity from consideration. This is problematic, as decades of organizational research continue to suggest that identity judgements are highly influenced by experiences of procedural fairness within groups, and that identity is a core driver of motivation to engage in workplace behaviors (Blader & Tyler, 2009; Tyler & Blader, 2000, 2003). Despite these omissions, partial tests of the *Inside Out* model have pointed to a direct association between internal and external procedural fairness as evidence of supervisor modeling (Sun et al., 2019; Van Craen & Skogan, 2017; Wu et al., 2017), a conclusion that assumes that all residual correlation left unexplained by the mediators can only be attributed to supervisor modeling. It remains to be seen whether the mechanisms identified by the *Inside Out* model, especially supervisor modeling, remain robust while controlling for other known factors.

Fairness, Group Identity, and Engagement

Organizational psychology has long acknowledged the importance of internal fairness in shaping the attitudes and behaviors of employees (Colquitt, 2008; Colquitt et

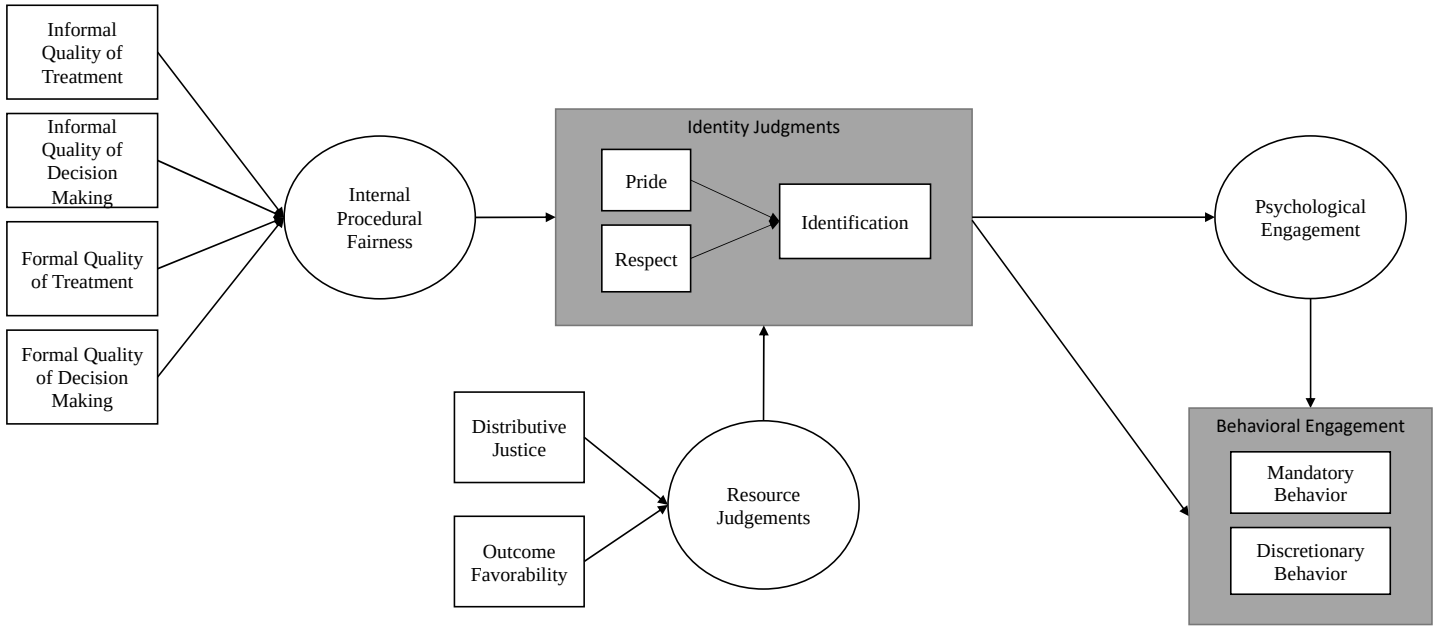
al., 2001; Greenberg, 2011). Over three decades of organizational fairness research consistently demonstrates that procedural fairness, among other fairness types, is associated with numerous organizational outcomes including job satisfaction, compliance with organizational rules, and engagement in discretionary behavior that is beneficial to organizations. Numerous theoretical perspectives have arisen over the years to explain the various dynamics at play within a workplace. Useful for the study of organizational fairness within police organizations, Tyler and Blader (2000, 2003b) proposed the group engagement model, which parallels Tyler's (2006) process-based policing model, to relate internal procedural fairness and individual behavior within groups.

The group engagement model seeks to explain the process by which individuals identify with their groups, develop psychological motivations, and engage in collective behavior. Tyler and Blader (2003, p353) point out that "people have considerable discretion about the degree to which they invest themselves in their groups," especially when it comes to behaviors that are not required of group members but that are beneficial to the group as a whole. Individuals who perceive themselves to be more valued and respected by the group are more likely to construct a social identity favorable to group values and norms. It is this identification, then, that shapes subsequent psychological alignment of personal and group values, as well as voluntarily compliance with group rules and engagement in behavior beneficial to the group.

An individual's identification with a particular group or organization is shaped primarily though their experiences of procedural fairness within the group. Procedural fairness refers to the quality of treatment and decision making experienced at the

Figure 3.2

The Group Engagement Model Conceptual Model



hands of formal group rules as well as fellow group members (Blader & Tyler, 2003a; Tyler & Blader, 2003). People rely on experiences of fairness as indicators of their social status, worth, and belongingness within groups. As individuals experience fairness within their group, the aspect of self that is linked to group membership aligns with the values and goals of the group (Sedikides & Brewer, 2015). People come to define themselves, in part, by membership in their group and subsequently internalize group norms thus shifting personal attitudes and expectations to align with group norms.

While this dynamic exists across multiple types of groups, it is particularly salient within organizational settings. Applying the GEM to police agencies, we should expect that experiences of procedural fairness from supervisors, peers, and departmental decision making will influence how much officers invest themselves in department norms and adopt departmental goals. As officers experience procedural fairness internally, they more firmly construct their social identities around the values and goals emphasized by the department. This identification increases an officer's felt obligation to follow group rules, encourages officers to adopt and adhere to department policies, and engage in discretionary behaviors that are beneficial to the department.

Importantly, our application of the GEM to police agencies identifies a vital caveat: procedural fairness is a double-edged sword (Trinkner & Tyler, 2020). Under the GEM, there is no reason to expect that experiences of fairness will inherently push officers towards treating citizens fairly. Fairness will simply bond officers to their organization. Because it is identification that drives internal motivation, we must also consider what values and goals officers are being bonded to. If an officer experiences

internal fairness and their department encourages procedurally fair policing practices, that officer will be more likely to support external procedural fairness. However, if the department is emphasizing a zero-tolerance approach, the officer will be *less likely* to support external procedural fairness and *more likely* to support zero-tolerance (Trinkner & Tyler, 2020). Contrary to the expectations of the *Inside Out* model, we should therefore expect that experiences of internal procedural fairness should only push officers towards external procedural fairness if the department is emphasizing external procedural fairness. Additionally, we should expect that the amount of emphasis placed on external procedural fairness will moderate the impact of organizational identification on support for external procedural fairness.

Current Study

As police agencies across the United States seek to promote community-based initiatives and procedurally fair policing, it is imperative to understand how departments can encourage officer support for and engagement in these policing strategies. Several recent studies have highlighted that officers who perceive that their department treats them in a procedurally fair manner are more likely to support and engage in fair and respectful policing. As studies continue to support this association, scholars are now seeking to understand the mechanisms connecting internal and external fairness. Drawing upon a social-learning perspective, Van Craen (2016a, 2016b) proposed his *Fair Policing from the Inside Out* model, which argues that in addition to indirect relationships through negative emotions, job satisfaction, and trust in citizenry, officers engage in external procedural fairness by modeling their behavior off of experiences with their supervisors.

Offering a competing explanation, Trinkner and Tyler (2019) applied the group engagement model to police organizations, arguing that the relationship between internal and external procedural fairness is mediated by an officer's identification with their agency. As officers identify more strongly with their agency, they become more likely to adopt the strategies emphasized by their department. Thus, internal fairness will lead to external procedural fairness only when the department emphasizes procedurally fair policing practices. Additionally, under the GEM, many of the mediators identified by Van Craen's (2016a, 2016b) *Inside Out* model are expected to be infuenced by organizational identification.

The current study compares these two explanations for the relationship between internal and external procedural fairness, assessing the relative fit of several structural equation models. The *Fair Policing from the Inside Out* model identifies four primary mechanisms for shaping support for procedurally fair policing: supervisor modeling, trust in citizens, negative emotions, and job satisfaction and morale. The approach asserts that there will be a direct effect from internal procedural fairness to officer support, representing the process of officer's modeling procedurally fair behaviors off of their experiences with supervisors and department leaders. By omission, the *fair policing from the Inside Out* model assumes that organizaitonal identification will not mediate the

relationship between internal and external procedural fairness.[18] Under the *Fair Policing from the Inside Out* approach, we should therefore expect that

Hypothesis 1a: Negative emotions, job satisfaction and morale, and trust in citizens all mediate the relationship between internal and external procedural fairness.

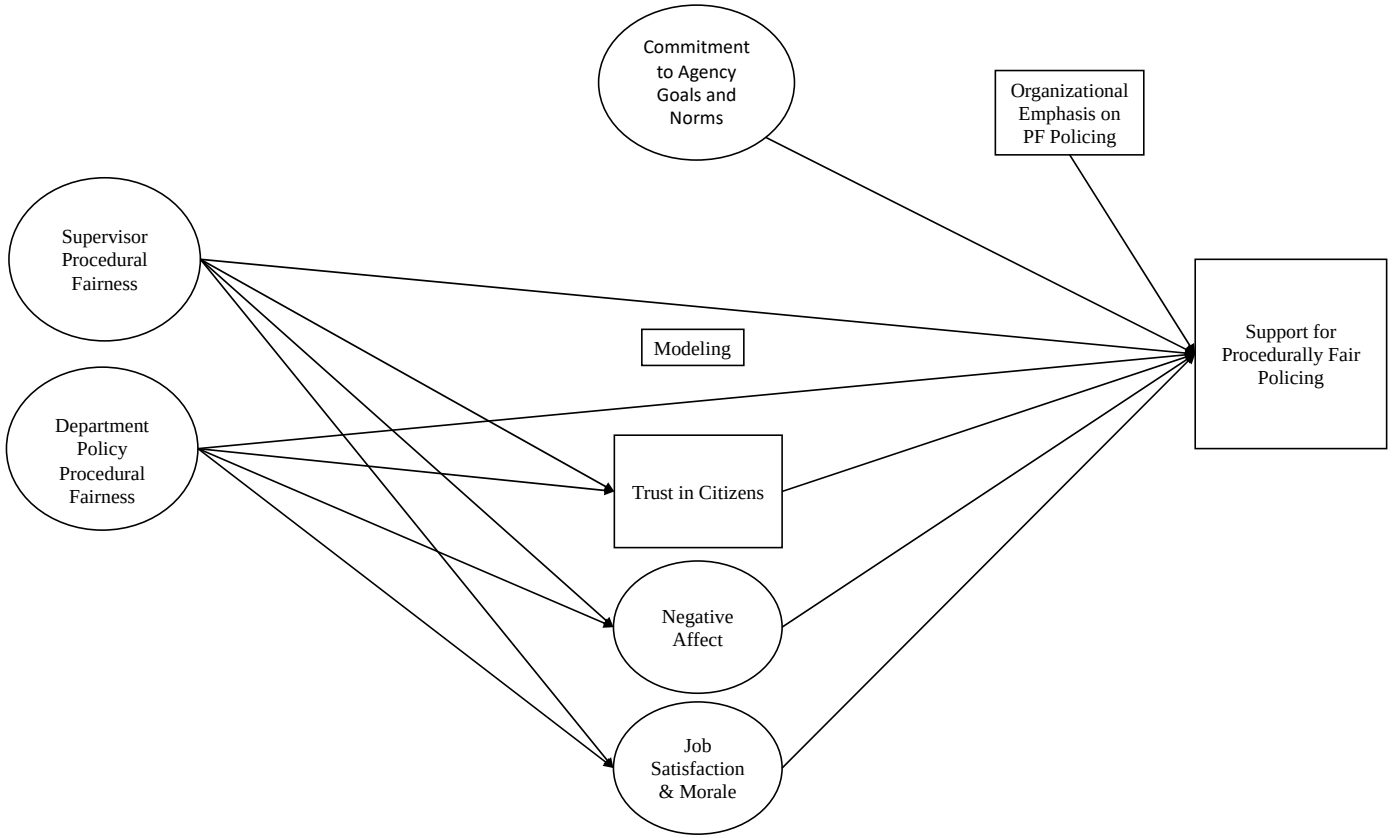
Hypothesis 1b: There will be a significant direct path from internal procedural fairness to external procedural fairness representing the process by which officers learn procedurally fair behaviors by modeling the treatment and decision making of their supervisors.

Hypothesis 1c: The mechanisms identified by the *Inside Out* approach (negative emotions, job satisfaction and morale, trust in citizens, modeling) will function as predicted with the inclusion of organizational emphasis and organizational identification as additional correlates of support for external procedural fairness.

[18]While the *Inside Out* model does not speak directly to the role of organizational identification, we can assume that variables ommitted from the model are expected to explain variation in support for procedurally fair policing, but will not be related to the mechanisms connecting internal and external procedural fairness.

Figure 3.3

Theoretical Structure for the Fair Policing from the Inside Out *Approach*



Drawing upon a social identity perspective, the group engagement model offers an alternative explanation for the relationship between internal and external procedural fairness. Under the GEM, internal fairness acts as a bonding agent, pushing people to identify with their group and identification group norms and values. It is this identification with the goals and norms of one's agency that shapes officer support for any policing strategy, including support for procedurally fair policing. We should therefore expect that

Hypothesis 2a: The relationship between internal and external procedural fairness is mediated by organizational identification.

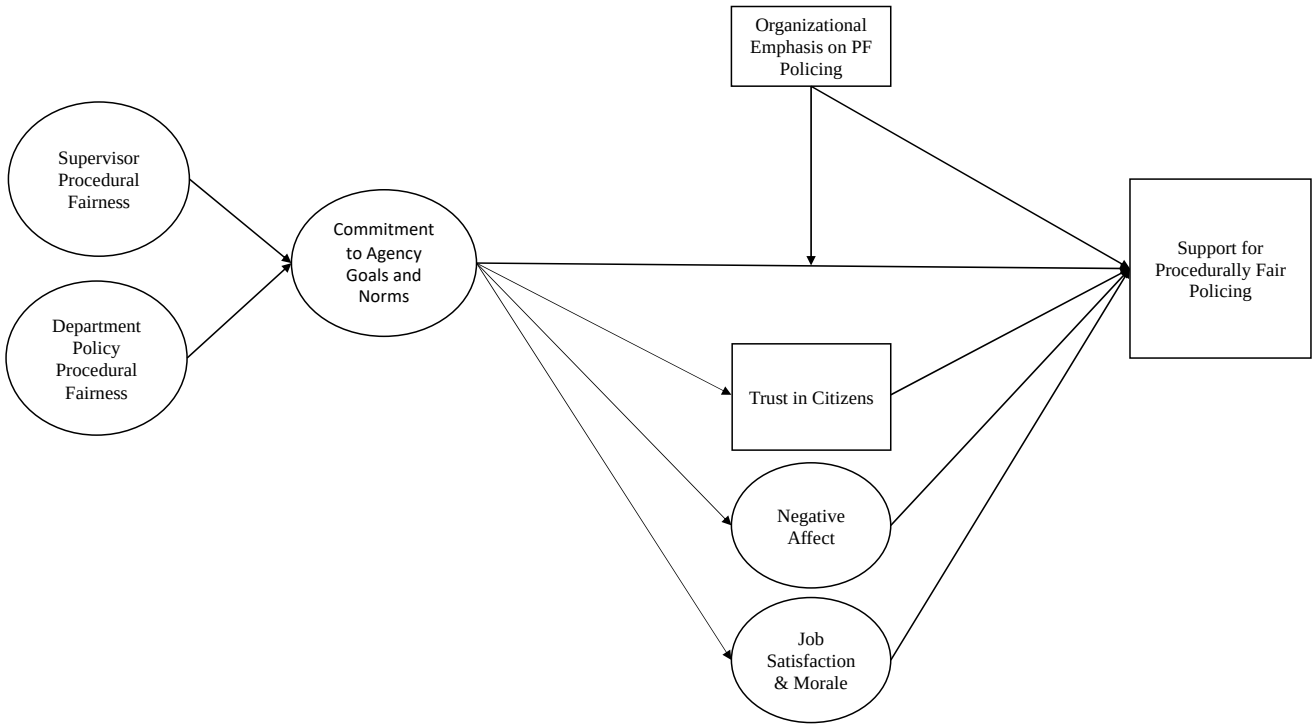
Hypothesis 2b: The relationship between organizational identification and support for external procedural fairness will be moderated by the amount of emphasis placed on procedurally fair policing practices.

Importantly for this comparison of the *Inside Out* approach and this social identity approach, identification with one's group is expected to shape outcomes like job satisfaction and burnout, while orientations towards others is shaped by the values and norms of the group officers are committed to. This suggests that the mechanisms identified by the *Inside Out* approach are, in fact, outcomes of organizational identification. We should therefore expect that

Hypothesis 3: Organizational identification will mediate the relationships between internal procedural fairness and trust in citizens, job satisfaction, and negative affect.

Figure 3.4

Theoretical Structure for the Organizational Identification Model



Methods

The following section details the data and methodology employed to test these hypotheses.

Data

This study employs data collected from the National Police Research Platform, which fielded surveys to a large sample of officers and civilian staff across 100 agencies (Rosenbaum et al., 2015). A stratified random sample of agencies with 100-3,000 sworn personnel was drawn from the 2007 Law Enforcement Management and Administrative Statistics (LEMAS) database (Rosenbaum et al., 2015).[19] Selection of participating agencies considered both agency size (number of sworn personnel), agency type (municipal police or sheriff agencies), and geographic location (Northeastern, Midwest, Southern, and Western United States) providing a relatively well rounded representation of agencies (McCarty & Dewald, 2017; Rosenbaum & McCarty, 2017). Additionally, the NPRP, Phase II included twelve agencies that had participated in the first phase of development, resulting in 100 agencies participating across the three Phase II surveys. Over the course of two years, all sworn and civilian law enforcement personnel in participating agencies were invited to respond to three surveys. Each survey contained approximately 65 items covering a variety of topics, such as perceptions of department policy, workgroup dynamics, law enforcement behaviors, and demographic information.

[19] For additional information regarding the selection of participating agencies and the implementation of the Law Enforcement Organizations (LEO-C) survey, see Cordner, 2017; Cronin, McDevitt, & Cordner, 2017; McCarty & Dewald, 2017; Rosenbaum, 2017.

Data for this study are drawn from responses to the third Law Enforcement Organizations (LEO C) survey. LEO C was fielded online through Qualtrics, Inc© to all sworn and civilian personnel between October 2014 and February 2015. While all participating agencies were invited to respond to LEO C, only 89 of the 100 Phase II agencies participated. Agency leadership disseminated a link to the survey's home page to all sworn and civilian personnel, which presented an informed consent and the option to proceed with the survey. The survey itself asked respondents about their perceptions of supervision, workplace culture, and job satisfaction. LEO C also included variables measuring attitudes towards procedurally-just policing and officer willingness to engage in procedurally-just actions The median time to completion for the survey was approximately 18 minutes, with a mean agency response rate of 35% (McCarty & Dewald, 2017). Given my focus on support for procedurally fair policing practices, my analysis focuses on the responses of sworn line officers and detectives from participating agencies, resulting in a sample of 9,356 officers across 85 agencies. The average age of respondents was 42.8 years old. Just under 15% of the sample was female, and over half of participants had at least some college education. The overwhelming majority of participants (76.6%) were white, while around 8% of respondents were African American, 9.5% of respondents identified as Hispanic, and the remaining respondents identified as some other race or ethnicity.

Measures

All items measuring internal procedural fairness and organizational identification were coded so that higher scores indicated a greater amount of the latent construct being measured. Descriptive statistics for all measures are shown in Table 4.1.

Internal Procedural Fairness. Both the *Inside Out* approach and the group engagement model suggest that internal procedural fairness encapsulates fairness from multiple sources including supervisors and department policy. Additionally, there is reason to suspect that the fairness of each source is expected to shape a variety of outcomes. The *Inside Out* approach, for example, specifies that officers will model their behavior primarily off of their supervisors, implying a potential differential effect of procedural fairness from an alternate source. I therefore use a two-factor model of internal procedural fairness, separating indicators of supervisor internal procedural fairness and internal procedural fairness emanating from department policy.[20] Supervisor procedural fairness is captured using four Likert-type items assessing the fairness of interpersonal treatment and decision making experienced from the officer's direct supervisor (i.e. *Indicate how often your supervisor treats employees with respect*). I rely on four Likert-type items to capture department policy procedural fairness (i.e. *Officers are treated with respect during formal disciplinary hearings*).

[20] A principal factor analysis with promax rotation of the eight internal procedural fairness items indicated the four items tapping supervisor procedural fairness loaded onto a separate factor from the four items tapping department policy procedural fairness. Consistent with the analysis presented in Chapter 2, this suggests that officers form separate, albeit related, assessments of procedural fairness from various sources within their organization.

I rely on an observed [single item] indicator of support for procedurally fair policing practices.[21] Officers were asked to rate their support for procedurally fair policing strategies (*What is your view of the procedural justice approach?)* on a single, 5-point Likert-type scale ranging from "strongly oppose it" to "strongly support it. Response categories were collapsed to create a three-category measure: oppose, neutral, and support procedurally fair policing. As shown in Table 4.1, about 3% of the sample expressed some level of opposition to the procedurally-fair policing approach while over 75% expressed some level of support. About 20% of officers surveyed expressed neither support nor opposition to procedurally-fair policing strategies.

Inside Out Approach. The *Inside Out* approach identifies four mechanisms thought to connect internal procedural fairness to external procedural fairness: supervisor modeling, negative affect, job satisfaction, and trust in citizens. Consistent with prior tests of the work relations model (Van Craen, 2016a; Van Craen & Skogan, 2017), supervisor modeling is not directly measured but is instead considered part of the direct relationship between internal and external procedural fairness after other mediating paths are accounted for. Negative affect is measured using four Likert-type items (i.e. *How often do you feel burned out from work; How often do you feel used up at the end of the*

[21] LEO C contained items that on their face were expected to measure the fairness of decision making: neutrality (*In certain areas of the city it is more useful for an officer to be aggressive than to be courteous*), transparency (*I explain what will happen next in the process*), and voice (*I give the driver a chance to tell his/her side of the story*). Principle factor analysis of the three decision-making items did not find an underlying component to all three measures, and Cronbach's alpha was low (0.39). Further, the survey did not have items that appeared to measure the fairness of treatment (i.e. respect for citizens' rights, treating citizens with dignity and respect). For these reasons, it was not possible to construct a reliable or valid multi-item measure of support for procedurally fair policing behaviors.

Table 3.1
Summary Statistics for Outcomes and Predictors

	m/%	s.d.
Internal Procedural Fairness		
Supervisor Procedural Fairness	0.00	1.00
Department Policy Procedural Fairness	0.00	1.00
Support for Procedurally-Fair Policing		
Oppose	2.77%	
Neutral	19.92%	
Support	77.31%	
***Fair Policing* Variables**		
Job Satisfaction	0.00	1.00
Negative Affect	0.00	1.00
Trust in Citizens	0.02	0.75
***Group Engagement Model* Variables**		
Organizational ID	0.00	1.00
Organizational Emphasis on Procedurally Fair Policing		
Not at All	13.81%	
A Little Bit	6.04%	
Somewhat	21.52%	
A Great Deal	32.26%	
Top Priority	26.38%	
Individual Predictors		
Age	43.79	8.80
Gender (Female = 1)	14.78%	
Education (College and Beyond = 1)	56.31%	
Race/Ethnicity (White = 1)	76.63%	

N = 9396

day?). Items are recoded such that higher scores represent stronger negative emotions. Job satisfaction is measured using four Likert-type items (i.e. *Please rate your overall satisfaction with your present job assignment; How satisfied are you with your career prospects – that is, your chances of being promoted to where you think you should be in this organization?*). Items are recoded such that higher scores represent higher levels of job satisfaction. Trust in citizens is measured using an observed [single item] indicator (*Officers have reason to be distrustful of most citizens*). This item is coded such that higher scores indicate higher levels of trust in citizens. Descriptive statistics for individual items are provided in Appendix A.

Group Engagement Model. The group engagement model suggests internal procedural fairness will bond officers to their agency, increasing their identification with agency goals and norms. Organizational identification is measured using two Likert-type items capturing officer's attitudes towards agency goals (*The agency's goals are important to me; I am strongly committed to making the agency successful*). Additionally, the GEM suggests that the amount of emphasis placed on procedurally fair policing will moderate the relationship between organizational identification and support for external procedural fairness. I rely on an observed indicator for support for procedurally fair policing practices, which is measured on a Likert-type scale ranging from "0=not at all" to "4=a top priority."[22] About 10% of respondents reported their department placed little

[22] Respondents who selected "Don't Know" when asked how much their department emphasized procedurally fair policing were recoded into the "not at all" category for analysis. Given the organizational emphasis variable is a subjective measure, officer who were not aware of how much emphasis their department placed on procedurally fair policing are assumed to perceive no emphasis on the strategy.

to no emphasis on procedurally fair policing, while about 25% reported it was a top priority.

Analysis Plan

To compare these two explanations for the relationship between internal and external procedural fairness, I first assess how well the *Inside Out* model fits the data without including any measures from the group engagement model. I then estimate a series of nested structural equation models in *Mplus 8.2*, specifying path structures dervived from the theoretical expectations of both models. First, I examine whether the *Inside Out* model functions as expected without the inclusion of the GEM variables. Following the model outlined in Van Craen (2016a, 2016b), I estimate direct paths from internal procedural fairness to support for procedurally fair policing representing the process of officer's modeling the behavior of their supervisors and department leaders, as well as three indirect paths through trust in citizens, job satisfaction, and negative emotions.[23] Next, I fit a model introducing organizational identification and organizational emphasis as additional antecedents of support for procedurally fair policing (see Figure 3.3). In the third model, all four mediators identified by the two models (negative affect, job satisfaction, trust in citizens, and organizational identification) are freely estimated, as well as a direct path from internal to external procedural fairness to represent modeling. Finally, in the last model I apply the social

[23] The *Inside Out* model does not specify whether the three mechanisms mediating the relationship between internal procedural fairness and external procedural fairness also influence each other (Van Craen, 2016a, 2016b). I therefore freely estimate the correlations among mediators without imposing constraints on the direction of that relationship.

identity mediation hypothesis to the relationship between internal procedural fairness and the three mechanisms identified by the *Inside Out* approach, constraining the direct relationship between internal procedural fairness and negative emotions, job satisfaction and morale, and trust in citizens to zero. Under this model, any relationship between IPF and the *Inside Out* mechanisms are mediated by organizational identification (see Figure 3.4). Given the type and distribution of my outcome variables, I rely on a multinomial logistic link function and maximum likelihood estimation to appropriately model officer support for procedurally fair policing.[24] Additionally, I rely on the "cluster" command in *MPlus* to adjust results due to respondent grouping by agency (Muthén & Muthén, 2011). All latent variables are standardized.

Results

Before considering both explanations in tandem, it is useful to establish how well the *Inside Out* approach functions on its own. Consistent with the model, trust in citizens, negative affect, and job satisfaction are expected to mediate the relationships between both supervisor and department policy procedural fairness and support for procedurally fair policing. This model also estimates direct paths from both internal procedural

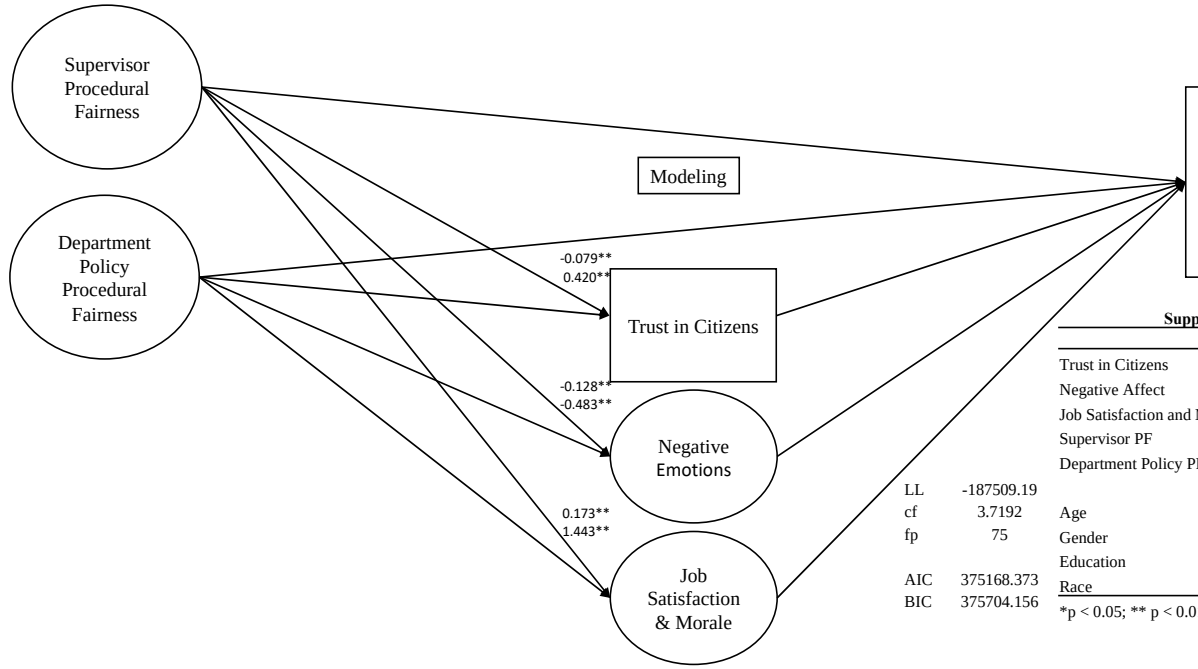
[24] Analysis relies on a multinomial logit function to model support for procedurally fair policing. Responses were coded such that officers reporting neither support nor opposition to procedurally fair policing were placed in the reference category. The MLR estimator was selected to facilitate the multinomial link function and the estimation of interaction terms (Muthen, n.d.). To ensure consistency across model estimates, the MLR estimator is used for all models. Likelihood estimators do not allow for incremental fit statistics such as chi-square difference, CFI, and TLI. Comparison of models can be facilitated through the use of the Satorra-Bentler scaled chi-square difference test, as well as by comparing the AIC and BIC fit statistics (Bryant & Satorra, 2011; Satorra & Bentler, 2010; UCLA, n.d.).

fairness variables to officer support which represent the learning process (i.e. supervisor modeling) that is central to the *Inside Out* approach.

As shown in Figure 3.5, I find mixed support for the mechanisms identified in the *Inside Out* approach. While the three indirect mechanisms identified by the model are significantly associated with perceptions of internal procedural fairness, the results suggest that only trust in citizens is significantly associated with support for procedurally fair policing. Additionally, both direct effects of internal procedural fairness (which the *Inside Out* approach argues is a product of supervisor modeling) are significantly associated with an increased likelihood of supporting procedurally fair policing practices. Interestingly, the direct effects are *not* associated with a significant change in the likelihood of opposing procedurally fair policing practices. Collectively, these results offer only partial support for the *Fair Policing from the Inside Out* model.

Turning to the relationship between variables identified in both theories, I next estimate the model that is most similar to the expectations of the *Inside Out* approach. As before, internal procedural fairness is expected to have a direct effect on support for procedurally fair policing, and indirect effects through trust in citizens, negative emotions, and job satisfaction. Because the *Inside Out* approach does not expect organizational identification or organizational emphasis to shape the relationship between internal and external procedural fairness, the next model treats the two GEM variables as correlates of support for procedurally fair policing that are not associated with internal procedural fairness. Consistent with the expectations of the *Inside Out* approach, the

Figure 3.5.
Model 1: *Fair Policing from the Inside Out* Path Model



LL	-187509.19
cf	3.7192
fp	75
AIC	375168.373
BIC	375704.156

Support for Procedurally Fair Policing

	Opposition	Support
Trust in Citizens	-0.331**	0.394**
Negative Affect	-0.064	0.038
Job Satisfaction and Morale	-0.208	0.003
Supervisor PF	-0.121	0.094**
Department Policy PF	0.003	0.327**
Age	0.012	0.007*
Gender	0.094	0.420**
Education	0.444*	0.019
Race	-0.481**	-0.183**

*p < 0.05; ** p < 0.01; Reference Category = Neutral

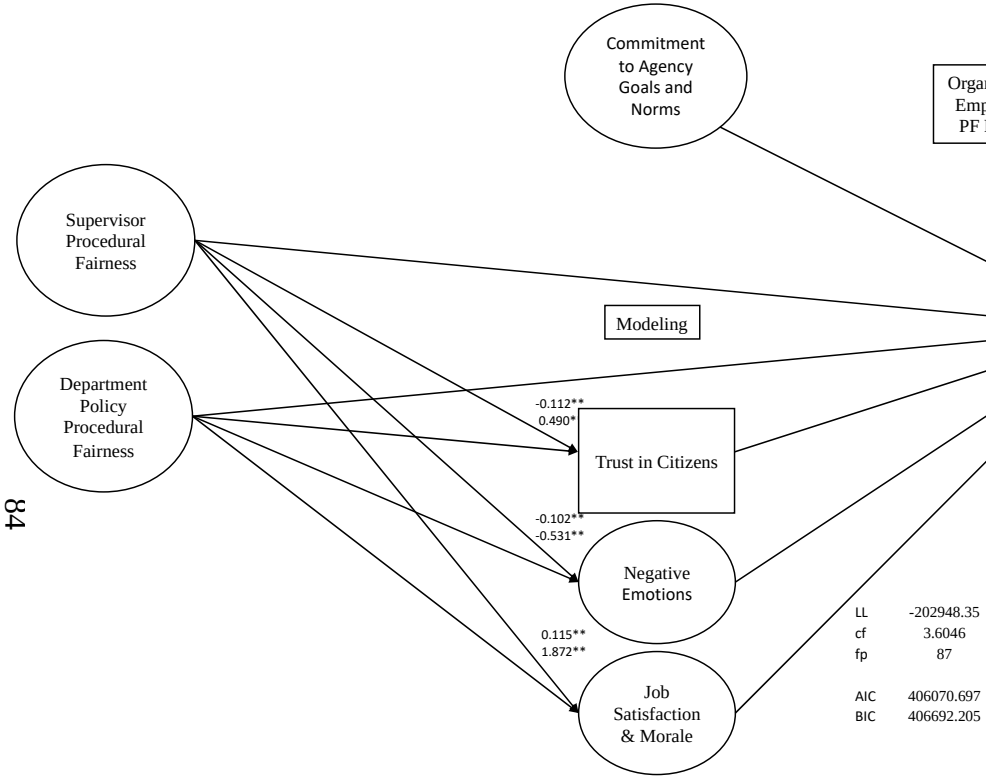
results suggest that internal procedural fairness from supervisors and department policy are associated with an officer's stated trust in citizens, negative affect, and job satisfaction.

Interestingly, we see that the procedural fairness of department policy tends to have the largest association with all three mediators, suggesting formal sources of fairness are more important in shaping officer attitudes. Turning to Hypothesis 1a, results of this path model indicate that officers who express higher levels of trust in citizens are more likely to support procedurally fair policing, and less likely to oppose the strategy over remaining neutral. Contrary to the expectations of the *Inside Out* model, increased job satisfaction and morale is associated with a *decrease* in the likelihood of supporting procedurally fair policing, while negative emotions are not significantly associated with change in the likelihood of supporting or opposing procedurally fair policing practices over remaining neutral.

There are several differences to highlight between Model 1 and Model 2. While the *Inside Out* model predicts such a path from internal to external procedural fairness (Hypothesis 1b), that association is not supported in the model that includes organizational identification and organizational emphasis as correlates of support. When the two GEM variables are included as correlates of support for procedurally fair policing, the direct associations between supervisor and department procedural fairness and support for procedurally fair policing fall out of significance. This suggests that the direct effect attributed to officers modeling the behavior of their supervisors and

Figure 3.6

Model 2: Inside Out Path Model with GEM Measures as Correlates



Support for Procedurally Fair Policing

	Opposition	Support
Organizational Commitment	-0.261*	0.452**
Organizational Emphasis	0.267**	0.698**
Trust in Citizens	-0.289**	0.438**
Negative Affect	-0.092	0.027
Job Satisfaction and Morale	-0.277*	-0.148*
Supervisor PF	-0.138	0.031
Department Policy PF	0.297	0.117
Age	0.012	0.009*
Gender	0.110	0.405**
Education	0.433*	0.024
Race	-0.495**	-0.159**

*p < 0.05; ** p < 0.01; Reference Category = Neutral

department leaders may in fact be the product of omitted variables, rather than evidence of a true effect. Thus, in response to Hypothesis 1c, at least one of the mechanisms identified in the *Inside Out* model, supervisor modeling, does not remain robust with the inclusion of organizational emphasis and organizational identification as correlates of support for external procedural fairness.

While the results from Model 2 suggest that the inclusion of organizational identification and organizational emphasis explain some of the variation in support for procedurally fair policing originally attributed to supervisor modeling, it is unclear whether organizational identification and organizational emphasis act entirely outside the mechanisms identified by the *Inside Out* approach, or if identification mediates the relationship between internal procedural fairness and the three mechanisms of the *Inside Out* approach. Therefore, I estimate a third model that treats the two explanations as complementary mechanisms that do not condition each other.

A comparison of fit statistics suggests that Model 3 provides a better fitting explanation of the relationships between the variables than Model 2.[25] Results indicate that internal procedural fairness is significantly associated with all four mediators (organizational identification, trust in citizens, negative affect, and job satisfaction). Additionally, allowing organizational identification to also mediate the relationship between internal and external procedural fairness does not dramatically change the

[25] The Satorra-Bentler scaled chi-squared difference test indicated a significant change in the loglikelihood (T=786.58, *df* = 2). Additionally, the AIC and BIC were substantially smaller for the second model ($\Delta AIC_{23} = 59.081;\ \Delta BIC_{23} = 44.793$).

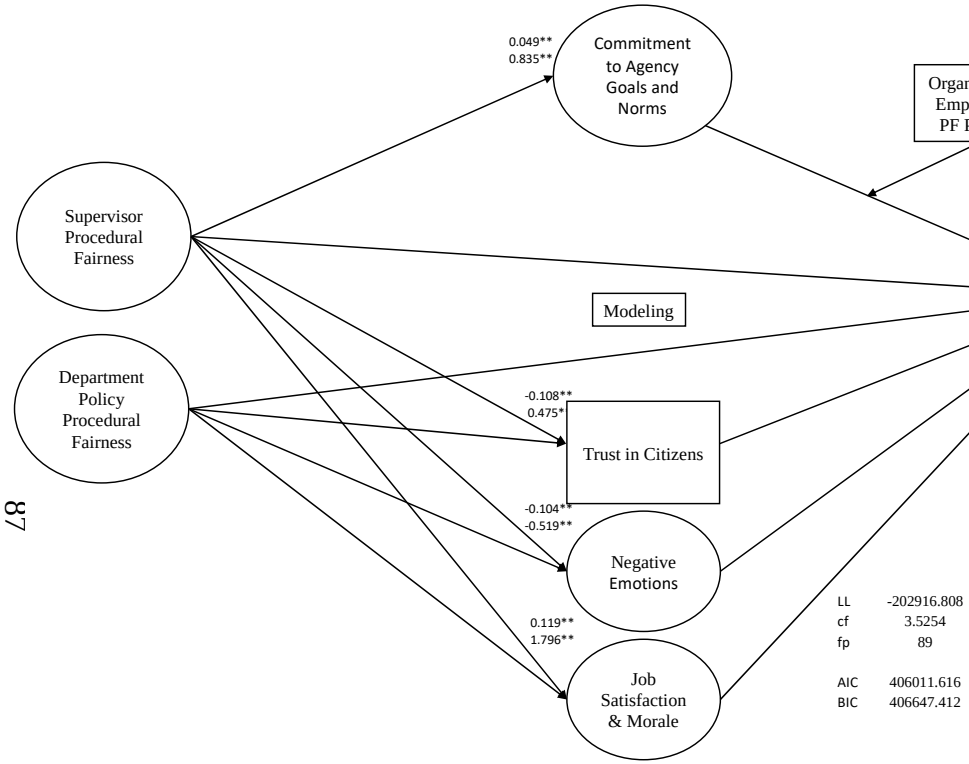
significance, directions, or magnitudes of the path coefficient estimates from the mediators to support for procedurally fair policing practices.

Both trust in citizens and job satisfaction remain significant predictors of deviation from the neutral category, although the association between job satisfaction and support for procedurally fair policing remains in the opposite direction from what the *Inside Out* model might suggest. Additionally, the model continues to find no significant associations with negative affect, supervisor modeling, or department modeling and changes in the likelihood of supporting or opposing procedurally fair policing. Collectively, these results seem to suggest that, at a minimum, organizational identification is *also* a mediator of the relationship between internal and external procedural fairness (Hypothesis 2a). Additionally, the significant interaction term for organizational identification and organizational emphasis on procedurally fair policing offers some support for my emphasis moderation hypothesis.

The previous two models clearly establish the importance of organizational identification as an additional mechanism for explaining the relationship between internal and external procedural fairness. It is necessary, however, to consider one final hypothetical structure for the relationship between the variables identified by these two models. The group engagement model suggests that organizational identification should be the primary mediator of the relationship between internal procedural fairness and any psychological or behavioral outcome. Officer perceptions of job satisfaction, support for policing strategies, attitudes towards citizens, and a plethora of other outcomes are all

Figure 3.7

Model 3: Inside Out and Organizational identification as Complementary Models



LL	-202916.808
cf	3.5254
fp	89
AIC	406011.616
BIC	406647.412

Support for Procedurally Fair Policing

	Opposition	Support
Organizational Commitment	-0.210	0.029
Organizational Emphasis	0.234**	0.732**
Commitment * Emphasis	0.027	0.161**
Trust in Citizens	-0.284**	0.436**
Negative Affect	-0.087	0.024
Job Satisfaction and Morale	-0.265**	-0.141*
Supervisor PF	-0.138	0.040
Department Policy PF	0.254	0.115
Age	0.012	0.008*
Gender	0.116	0.404**
Education	0.436*	0.034
Race	-0.493**	-0.157*

*p < 0.05; ** p < 0.01; Reference Category = Neutral

expected to emanate from an officer's identification with their organization and the values and norms associated with that identification. The final model, therefore, enforces a strict interpretation of this identity mediation hypothesis, treating the *Inside Out* mechanisms (trust in citizens, negative affect, and job satisfaction) as both antecedents of support for procedurally fair policing and outcomes of officer identification with their agency.

Examining the relative fit of the model compared to the previous hypothetical structures, this analysis indicates the full mediation model best fits the data. The Satorra-Bentler scaled chi-squared difference test indicates a significant change in the loglikelihood (T=164.33, df =7). [26] Additionally, there is a substantial decrease in both the AIC and BIC from Model 3 to Model 4, indicating Model 4 is the better fitting structure ($\Delta AIC_{34} = 263.970;\ \Delta BIC_{34} = 313.977$). Turning to the path estimates, Model 4 indicates that internal procedural fairness is significantly associated with officer identification with their agency. Further, increases in organizational identification are associated with increased trust in citizens, increased job satisfaction, and decreased negative emotions. Collectively, this suggests that consistent with Hypothesis 3, organizational identification does mediate the relationship between internal procedural fairness and each of the mechanisms identified by the *Inside Out* approach.

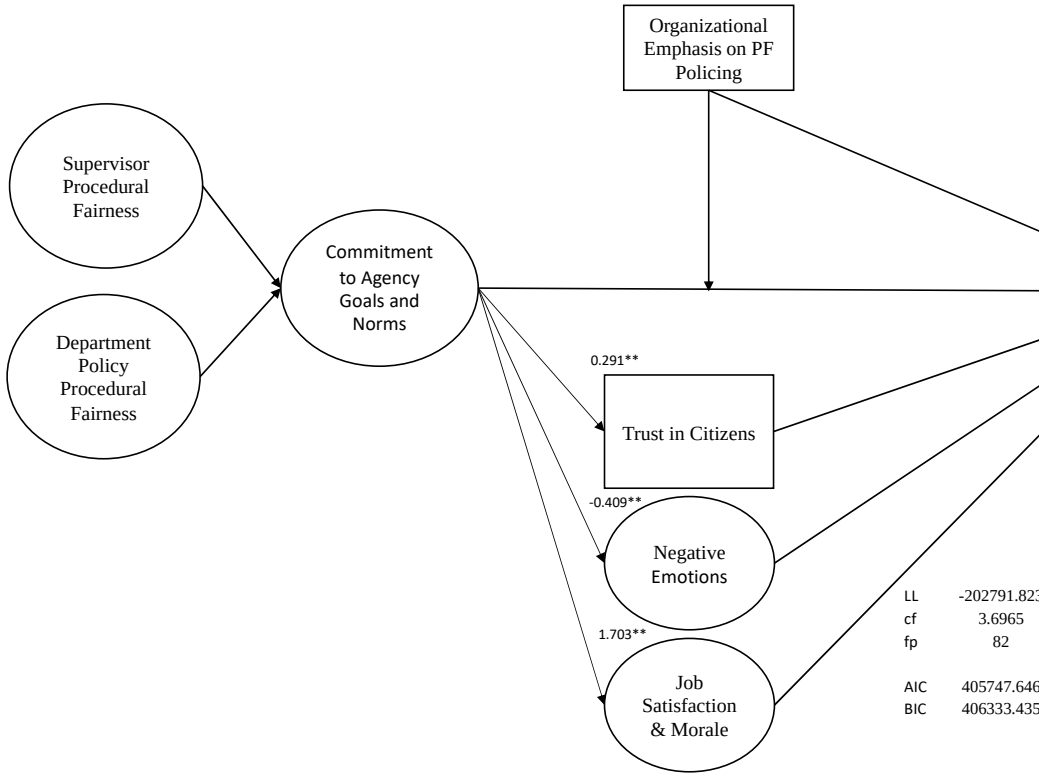
[26] The formula for the Satorra-Bentler scaled chi-square difference test is $\mathrm{T} = -2 * (\mathrm{L0} - \mathrm{L1})/\mathrm{cd}$ where T is distributed chi-square with $df = \mathrm{p1} - \mathrm{p0}$ and $\mathrm{cd} = (\mathrm{p0} * \mathrm{c0} - \mathrm{p1} * \mathrm{c1})/(\mathrm{p0} - \mathrm{p1})$; c0 is the scaling correction factor for the nested model and p0 is the number of parameters in the nested model (Bryant & Satorra, 2011; Satorra & Bentler, 2010; UCLA, n.d.).

Turning to the coefficient estimates, results of Model 4 indicate that both supervisor procedural fairness and department policy procedural fairness significantly predict changes in organizational identification. Officers become more likely to identify with the goals, norms, and values of their agency as they experience fairness within the department. Interestingly, department policy fairness appears to be a stronger predicter of organizational identification than supervisor fairness. As we might expect, a stronger identification with agency goals and norms significantly improves perceptions of trust in citizens, substantially increases job satisfaction, and protects against negative emotions and job burnout.

Finally, consistent with prior research, officers who express trust in citizens are more likely to support procedurally fair policing practices and less likely to express opposition to the approach. Interestingly, net of controls job satisfaction actually decreases the likelihood of officers expressing support for the strategy and is not a protective factor against opposition. Officers are just as likely to oppose procedurally fair policing as they are to remain neutral regardless of their level of job satisfaction. However, as job satisfaction increases, the likelihood of expressing support decreases. Turning to organizational identification and emphasis on procedurally fair policing, the results suggest that officers reporting an average level of identification with their agency goals and norms become more likely to deviate from neither support nor opposition to procedurally fair policing as organizational emphasis increases. Interestingly for those officers, an increase in organizational emphasis is associated with an increased likelihood in *opposition* to procedurally fair policing, although it is associated with a larger increase

Figure 3.8

Model 4: Organizational identification Path Model Results



Support for Procedurally Fair Policing

	Opposition	Support
Organizational Commitment	-0.438	0.959**
Organizational Emphasis	0.247**	0.247**
Commitment * Emphasis	0.047	0.139**
Trust in Citizens	-0.256**	-0.256**
Negative Affect	-0.141*	0.113**
Job Satisfaction and Morale	-0.001	-0.581**
Age	0.013	0.009*
Gender	0.125	0.442**
Education	0.446*	0.013
Race	-0.491**	-0.175**

*p < 0.05; ** p < 0.01; Reference Category = Neutral

in the likelihood of support for procedurally fair policing. In reference to Hypothesis 2a, Model 4 again finds a significant interaction between organizational identification and organizational emphasis, suggesting the relationship between organizational identification and support for procedurally fair policing strategies is conditioned by the amount of emphasis placed on the strategy. The results suggest this interaction of identification and emphasis is not associated with changes in the likelihood of opposition to the strategy.

Discussion and Conclusion

Over the past few years, police departments across the United States have been faced with mounting pressure from politicians and community members to adopt procedurally fair policing practices. While some agencies have attempted to implement programs to encourage officer adoption of a procedurally fair orientation, impact evaluations suggest mixed long term effects on police officer engagement in procedurally fair policing (Rosenbaum & Lawrence, 2013; Schaefer & Hughes, 2016; Thompson, 2016; Wheller et al., 2013). As departments continue to develop and refine training programs, some scholars advocate for investment in a second pathway to securing procedurally fair policing. Procedural fairness research within police agencies has continually found that officer perceptions of fairness within their department shape a multitude of attitudes and behaviors (Bradford & Quinton, 2014; Farmer et al., 2003; Nix & Wolfe, 2017; Wolfe & Piquero, 2011), including support for procedurally fair policing (Bradford & Quinton, 2014; Trinkner et al., 2016; Van Craen & Skogan, 2017). This led some researchers to argue that one path to encouraging procedurally fair policing

practices is to invest in internal procedural fairness within police organizations (Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017).

To explain why investing in internal procedural fairness will shape officer behaviors, Van Craen (2016a, 2016b) proposed the *Fair Policing from the Inside Out* approach. Drawing upon elements of social learning theory (Bandura, 1971), general strain theory (Agnew, 1992), and frustration-aggression theory (Dollard et al., 1939), the *Inside Out* approach identifies four mechanisms by which internal procedural fairness is expected to shape procedurally fair policing practices: officers mimicking the behavior of their supervisors during police/citizen interactions, as well as indirect effects through trust in citizens, negative emotions, and job satisfaction. While partial tests of the *Inside Out* model have found mild support for some of the propositions (Van Craen et al., 2017; Van Craen & Skogan, 2017; Wu et al., 2017, 2019), the framework omits a key concept that plays a vital role in shaping the relationship between procedural fairness and behavior: social identity (Abrams & Hogg, 1988; Sedikides & Brewer, 2015; Tyler & Blader, 2000, 2003). Identification with group values and norms plays an important role in shaping engagement in group behaviors (Blader & Tyler, 2003a, 2003c, 2009; Tyler & Blader, 2003). When officers experience fairness within their organization, they become more likely to adopt the values and norms of their department; it is this identification with the organization that, in turn, shapes officer attitudes, such as support for organizational priorities (Blader & Tyler, 2009; Trinkner & Tyler, 2020; Tyler & Blader, 2003). Therefore, internal procedural fairness is only associated with support for

procedurally fair policing when the agency is also emphasizing adoption of procedurally fair policing practices.

In this study, I compared these two explanations for the relationship between internal and external procedural fairness. Taking an iterative approach to model testing, I found that identification with organizational goals and norms mediates the relationship between internal and external procedural fairness (Hypothesis 2a), and that the effect of identification on support for procedurally fair policing is moderated by the amount of emphasis the organization placed on procedurally fair strategies (Hypothesis 2b). Contrary to the expectations of the *Inside Out* approach, I did not find support for the notion that negative emotions mediate the relationship between internal and external procedural fairness in any of the models (Hypothesis 1a). Additionally, while the model that only considered *Inside Out* variables found a significant direct effect from internal procedural fairness to officer support for procedurally fair policing (Hypothesis 1b), the paths were nonsignificant in all models that included measures of organizational identification and organizational emphasis on procedurally fair policing (Hypothesis 1c). Finally, my analysis indicates that the best fitting structure was one in which organizational identification mediates the relationship between internal procedural fairness and all three indirect mechanisms identified by the *Inside Out* approach (Hypothesis 3). Collectively, the results suggest that the omission of identity is a critical oversight for the *Inside Out* approach; my results indicate that identity alignment and organizational emphasis play a key role in shaping officer adoption of procedurally fair policing practices. Additionally, identity alignment plays a key role in mediating the

relationships between internal procedural fairness as the mechanisms identified by the *Inside Out* approach.

Several of the findings reported above warrant further discussion. First, while several studies have offered partial tests of Van Craen's (2016a, 2016b) model (Van Craen et al., 2017; Van Craen & Skogan, 2017; Wu et al., 2017, 2019), to my knowledge there are no published studies that account for all four mechanisms in the same model. While preliminary evidence suggested that negative emotions (Trinkner et al., 2016; Van Craen et al., 2017) and job satisfaction (Wu et al., 2017, 2019) may play a role in shaping support for procedurally fair policing, the results of the first model suggest the associations are likely not direct. It is still possible that negative emotions and job satisfaction have indirect effects through other mechanisms like trust in citizens, but the assertion that they are mediators of the internal to external procedural fairness relationship does not appear supported when the other *Fair Policing* mechanisms are included in the model.

Second, the analysis presented here suggests that prior tests of the *Inside Out* model overstated the relationship between internal and external procedural fairness. Thus far, tests of Van Craen's (2016a, 2016b) model have pointed to the association between internal and external procedural fairness net of other mediators as an indication of a direct effect, usually explained through supervisor modeling (Sun et al., 2019; Van Craen & Skogan, 2017). Critically, these studies omitted measures of organizational identification or emphasis on procedurally fair policing. As demonstrated above, when only looking at the relationship between variables identified by the *Inside Out* approach, there is a

significant direct effect from internal to external procedural fairness. However, the effects of both IPF measures fall out of significance as soon as organizational identification and organizational emphasis are included as predictors of support for procedurally fair policing. This suggests that the associations observed in the first model (as well as in prior studies) are likely the result of omitted variable bias (Clarke, 2005, 2009; Mustard, 2003) rather than an indication of a true relationship.

Third, the role of organizational identification as a mediator of the relationship between internal and external procedural fairness and as a mediator between internal procedural fairness and the three *Inside Out* mechanisms offers an important caveat to the implications of the *Inside Out* approach. The analysis presented here suggests that just because internal procedural fairness *can* influence adoption of procedurally fair policing practices does not inherently mean it *will.* It is important to remember that procedural fairness is a double-edged sword; it does not push officers towards a universal set of behaviors, but instead bonds them to organizational norms and values (Blader & Tyler, 2009; Trinkner & Tyler, 2020; Tyler & Blader, 2003). We should therefore expect that internal procedural fairness will lead to procedurally fair policing practices *only when* police departments choose to emphasize those strategies. Contrary to the conclusions of previous *Inside Out* tests which argued that police officer support for procedurally fair policing would be enhanced if supervisors and leaders commit to engaging in procedurally fair behaviors as well (Sun et al., 2019; Van Craen et al., 2017; Van Craen & Skogan, 2017), the mediating role of identity suggests that internal procedural fairness can just as easily bond officers to a warrior mentality and adoption of zero-tolerance

policing practices if that is what a procedurally fair department chooses to emphasis. It is therefore not enough to support the adoption of procedurally fair policing practices to secure support for procedurally fair policing. Efforts to reform police behavior must also consider what values and norms officers are going to bond to when they experience procedurally fair practices within their organization.

Finally, the analysis presented here highlights a continuing need to reduce information silos across disciplines. The development of the *Inside Out* approach appears to have occurred largely independent of a vast, multi-decade literature addressing the same problems in another context (Abrams & Hogg, 1988; Blader & Tyler, 2009; Colquitt, 2008; Colquitt et al., 2001; Sedikides & Brewer, 2015; Tyler & Blader, 2003). While studies of procedural fairness often cite "the unique structure and function of police organizations" (Rosenbaum & McCarty, 2017, p. 75) as a potential reason that knowledge from other disciplines may not apply to our field, again and again studies have found that police officers are just as sensitive to the fairness of their workplace as any other employee (Trinkner & Tyler, 2020). While at an organizational level, police organizations contend with pressure from more sources than a private organization might experience (Crank & Langworthy, 1992; Katz, 2001; Perrow, 1961, 2014), there is little evidence that the mechanisms by which criminal justice organizations shape police officer behavior, such as procedural fairness and group identity, are substantively different from the mechanisms by which any organization shapes employee behavior. The expansion and refinement of this research is inhibited by the assumption that

criminal justice agencies are so drastically different from other organizations that the same theoretical principles will not apply.

The current study is not without some limitations. First, like most studies of officer orientation towards procedurally fair policing, the current study relies on an attitudinal rather than behavioral measure of support. Additionally, support for procedurally fair policing was measured with a single question which explicitly asked officers to rate their support for the strategy. It is possible that the social desirability of stating support for procedurally fair policing during a period of time that procedural fairness was front and center in conversations about policing introduced some bias into the outcome. Future studies should endeavor to capture support for procedurally fair policing in other, less direct ways, such as asking officers about their attitude towards engaging in procedurally fair behaviors. Additionally, future studies should attempt to link officer attitudes towards procedurally fair policing to behavioral measures. Second, while the data used in this study had at least one measure of each construct from the two explanations for the internal/external connection, traditional measurement conventions suggest using at least three items with uncorrelated errors when measuring latent constructs (Kenny et al., 1998). Future research should replicate the analysis presented here with additional measures capturing the various constructs. Third, as with most secondary analysis, several constructs within the GEM were not measured or included as controls. Specifically, while I was able to test the GEM's identity mediation hypothesis, I was unable to capture officer perceptions of distributive fairness and outcome favorability. Further, I while I was able to capture identification with group values, I was

not able to capture identity judgements of pride or respect, both of which are expected to shape identification. We should be cautions to overinterpret the relationship between internal procedural fairness and organizational identification, as these omissions potentially bias the estimation of that relationship. Finally, it is important to remember that inferences of causality are based on theoretical expectations but could not be directly assessed in this cross-sectional dataset.

The current study offered a number of insights into the relationship between internal and external procedural fairness. While research in policing has thus far been dominated by tests of the *Inside Out* approach, my analysis indicates Van Craen's (2016a, 2016b) model omits a key mediator: social identity. When identification with organizational norms and the emphasis an organization placed on procedurally fair policing were taken into account, I found that several of the *Inside Out* mechanisms, including supervisor modeling, were no longer significantly associated with support for procedurally fair policing. I did, however, find evidence that organizational identification mediates the relationship between internal procedural fairness and each of the three *Inside Out* mechanisms. Additionally, my analysis suggests that the relationship between organizational identification and support for procedurally fair policing is moderated by the amount of emphasis an organization placed on the strategy. Collectively, these results reveal an important caveat to the internal/external fairness connection: internal procedural fairness leads to external procedural fairness *only when* the department emphasizes procedurally fair policing. More generally, this suggests that the utility of internal procedural fairness to shape police officer behavior is limited. It will act as a bonding

agent to organizational goals and norms, however experiencing internal procedural fairness from supervisors and department leaders will not inherently push officers to engage in procedurally fair policing.

CHAPTER 4

MODERATING SUPPORT: UNPACKING THE RELATIONSHIP BETWEEN PROCEDURAL FAIRNESS, IDENTIFICATION, AND EMPHASIS

The history of policing is rife with attempts to change, reform, and innovate practices in an effort to better serve communities (Scott, 2017). While attempts may begin with the best of intentions, all too often reform efforts fail to generate momentum among rank-and-file police officers (Skogan, 2008). This has led some to conclude that while organizations can make great rules and policies, if they conflict with existing culture, they will not be institutionalized and officer behavior will not change (President's Task Force on 21st Century Policing, 2015, p. 12). As departments face increased scrutiny and public pressure to reform in the wake of Ferguson, it is necessary to consider ways in which departments can build support for new policies and initiatives amongst their rank and file.

The question of how to motivate support for new organizational goals is not a novel one. Decades of research in social psychology and business management have dissected the antecedents of employee behavior (Colquitt et al., 2001, 2005; Greenberg, 2011). Consistently across this literature, scholars continue to find that worker motivation is closely tied to the fairness within their work environment (Blader & Tyler, 2003c; Colquitt et al., 2001, 2005; Greenberg, 2011; Tyler & Blader, 2003). Employees who believe their workplace is fair are more likely to internalize group goals and norms, and subsequently engage in behaviors consistent with those ideals (Blader & Tyler, 2009; Trinkner & Tyler, 2020; Tyler & Blader, 2003).

Just as any employee, police officers are sensitive to the internal fairness of their organization (Bradford et al., 2014; Trinkner et al., 2016; Wolfe & Piquero, 2011). Engagement in group behaviors is shaped primarily by one's identification with group norms and values (Blader & Tyler, 2009; Tyler & Blader, 2003). Under Tyler and Blader's (2003b) group engagement model, experiences of fairness serve as a mechanism by which officers come to identify with department goals and values This identification, in turn, shapes officer motivation to support and engage in a variety of behaviors (Bradford & Quinton, 2014; Bradford et al., 2014). Thus, departments can secure support for new initiatives by investing in internal fairness (Trinkner & Tyler, 2020).

While internal fairness offers a means of securing support for new policies and practices, it is important to consider unintended consequences. Numerous studies over the past few years have reported positive associations between internal procedural fairness and officer support for procedurally fair policing practices (Bradford & Quinton, 2014; Trinkner et al., 2016; Van Craen & Skogan, 2017), leading some to argue that departments should invest in internal fairness as a means of promoting procedurally fair policing practices (Van Craen, 2016a, 2016b). While such an approach might work, Trinkner and Tyler (2019) warn that internal fairness will be a double-edged sword. We argue that because internal fairness simply bonds officers to whatever the department emphasizes, internal fairness will not push individuals towards a particular set of behaviors or values. Instead, we argue that internal fairness will encourage support for whatever strategies are emphasized by the department, regardless of its orientation to the community.

The current study empirically assesses several hypotheses emanating from Trinkner and Tyler's (2020) application of the group engagement model to police organizations. First, I examine the mediating role of organizational identification on the relationship between internal procedural fairness and support for several policing strategies. I test the assertion that internal fairness should not, in and of itself, push officers towards a particular policing strategy by simultaneously estimating the effect of identification on three policing strategies. Second, I test the assertion that organizational emphasis on each strategy will moderate the relationships between organizational identification and support for various policing strategies. My study contributes to a growing literature that seeks to understand the role of police organizations in shaping officer adoption of various policing strategies, as well as the literature examining the relationship between internal procedural fairness in police agencies and police officer support for procedurally fair policing practices.

Encouraging Support for Organizational Change

Scholars and police leaders have long bemoaned the near impossibility of changing police organizations, pointing to the gauntlet of internal obstacles barring change to the institution (Scott, 2017; Skogan, 2008; Trinkner & Tyler, 2020). Generating support for new policies and strategies must contend with an organizational structure and management approach rife with contradictions (Tyler et al., 2007). Police organizations are almost universally organized in a strict hierarchy, with decisions being made at the top of the command structure and policies trickling down through the chain of command to line-officers. Such an authority structure is most effective when

supervisors are able to closely monitor the behavior of their subordinates to ensure compliance (Tyler & Blader, 2000; Tyler et al., 2007). The job of police officers, meanwhile is historically one with broad discretion and limited direct supervision in an officer's day-to-day decision making (Fyfe, 1997; Goldstein, 1960; Lipsky, 2010; Muir Jr., 1977). This contradiction between structure and role eliminates the key mechanism by which hierarchical structures can efficiently secure compliance with change and shifts the power to drive or stall reform efforts to line officers.

Reform-minded leaders and scholars know that changing police practices must contend with an "organizational culture [that] eats policy for lunch" (President's Task Force on 21st Century Policing, 2015, p. 11). Failed reform efforts often point to police culture as the key barrier to their success (Bradford et al., 2014; Foster, 2003; Skogan, 2008; Stanko, Jackson, Bradford, & Hohl, 2012). Police cultures are insular, suspicious, cynical, and highly resistant to change (Bradford et al., 2014; Loftus, 2010). This resistance is particularly strong against attempts to push policing towards a more service-based model, as the principles underlying community-based approaches often clash with the collective identities of police officers (Bradford et al., 2014; Reiner, 2010). Reformers must therefore find a way to contend with the culture of police officers and build support amongst rank and file officers for new strategies and initiatives.

Fairness and Group Identity

Scholars and business leaders have long been interested in how to secure compliance and support in the workplace (Colquitt et al., 2001, 2005). Scholars have consistently found that workers' interpersonal experiences within their organizations play

a vital role in shaping behavior (Colquitt et al., 2001, 2005; Greenberg, 2011; Tyler & Blader, 2000, 2001). Across this literature, scholars continually find that experiences of fairness within organizations is one of the most salient predictors of support for organizational goals. People are more likely to comply with organizational norms when they feel that those in authority within the organization treat them in an unbiased, dignified, and trustworthy manner (Blader & Tyler, 2009; Lind & Tyler, 1988; Smith, Tyler, Huo, Ortiz, & Lind, 1998; Tyler & Blader, 2000, 2003).

A person's behavior within an organization is intrinsically tied to their experiences of fairness. People rely upon group membership to shape and maintain their social self (Abrams & Hogg, 1988; Sedikides & Brewer, 2015; Tyler & Blader, 2000, 2003). People are especially sensitive to issues of procedural fairness within their groups during the construction of social identity, using the quality of treatment and decision making experienced within their groups as a reflection of their standing and value to the group (Tyler & Blader, 2003). Individuals rely upon their interactions with other group members to construct their self-image, a process that links views of self-worth and self-esteem to group membership (Sedikides & Brewer, 2015; Tyler & Blader, 2003). Individuals who experience fairness from their groups, subsequently mold their identity around group membership, adopting the goals and values of their collective as their own (Blader & Tyler, 2003a, 2009; Tyler & Blader, 2003). Thus, as people perceive their group to treat them in a procedurally fair manner, they feel a sense of inclusion, status, and pride associated with group membership. This identification with organizational goals and norms in turn encourages individuals to comply with group rules, follow

procedures willingly, and engage in discretionary behaviors beneficial to the collective whole (Blader & Tyler, 2009; Bradford et al., 2014; Smith et al., 1998; Tyler & Blader, 2000, 2003).

Shaping Officer Behavior

As with any group, officers within police organizations are sensitive to the internal fairness of their organization. Numerous studies have highlighted the importance of internal fairness in shaping a multitude of outcomes. Officers who perceive their departments to treat them fairly are more likely to report higher job satisfaction (Farmer et al., 2003), be involved in fewer use of force incidents (Wolfe & Piquero, 2011), perceive themselves as exercising legitimate authority (Bradford & Quinton, 2014; Nix & Wolfe, 2017; Wolfe & Nix, 2017), and support for community oriented policing initiatives (Bradford et al., 2014; Myhill & Bradford, 2013; Trinkner et al., 2016). Recent scholarship also suggests that, consistent with the expectations of the group engagement model, group identification mediates the relationship between fairness and an officer's attitudes and behaviors (Bradford et al., 2014; Rosenbaum & McCarty, 2017). Indeed, organizational identification has been found to shape officer support for a variety of policing strategies (Bradford & Quinton, 2014; Bradford et al., 2014). This suggests that police departments can invest in procedurally fair decision making internally as a means of encouraging group identification and subsequent adherence to organizational goals and values.

While internal fairness offers a potential avenue for securing officer support for new policing practices, reform efforts should be wary of overstating its benefits. Recent

scholarship has highlighted a positive association between internal procedural fairness and officer support for procedurally fair policing (Skogan et al., 2015; Tankebe, 2014b; Trinkner et al., 2016). This has led some scholars to argue that investments in internal fairness offer departments a way to encourage procedurally fair policing practices on the street (Van Craen, 2016b, 2016a; Van Craen & Skogan, 2017). Although internal fairness and identification may offer a means of encouraging voluntary adoption of procedurally fair policing practices in some cases, the assertion that it will always lead to procedurally fair policing practices ignores the importance of group identity as a key mediator of the relationship between internal fairness and officer support for agency policies and goals. An officer's motivation to engage in a new policing strategy flows from their identification with their organization and the subsequent adoption of behaviors that are valued and emphasized.

Current Study

Any attempt by police leadership to implement new policies or take departments in a new direction must contend with a contradictory power structure and a culture that is highly resistant to change. Change, therefore, is driven not by the quality of ideas themselves or sheer will of department leadership, but by the consent of the line officers to support the new direction. Organizational scholarship has long examined the mechanisms for securing support and voluntary adoption of group goals. One such line of research highlights the importance of internal organizational fairness and identification with group goals in shaping motivation and behavior. While internal fairness bonds individuals to their groups, it is this identification and adoption of norms and goals

emphasized by the group that shapes motivation. This suggests that officers who identify more strongly with their agency will be more likely to support whatever policies and strategies are emphasized by their department.

The current study empirically assesses several hypotheses emanating from this application of the group engagement model to police organizations. As noted previously, internal procedural fairness is expected to be the key antecedent to an individual's identification with group values. It is this identification with group norms and values that then influences attitudes towards and engagement in behaviors that are valued or beneficial to the group (Blader & Tyler, 2003a, 2009; Tyler & Blader, 2003). Thus, any relationship between experiences of internal procedural fairness and officer support for any policing strategy should act through an officer's identification with organizational norms and values. I therefore expect that:

> *Hypothesis 1:* The relationship between internal procedural fairness and support for any policing strategy will be mediated by an officer's identification with the goals and values of their organization.

Implied in the group engagement model is the assumption that internal procedural fairness will not push officers towards a specific set of motivations or behaviors (Trinkner & Tyler, 2020). Internal fairness is simply thought of as a bonding agent, "greasing the wheels" of an organizational machine and making it more likely for individuals to adopt and support group goals. Motivation to support a particular set of behaviors is therefore contingent upon the group valuing and emphasizing those

behaviors. We should therefore expect that support for a particular policing strategy is contingent upon the department's emphasis on that strategy. I therefore expect that:

Hypothesis 2a: Organizational identification will be positively associated with multiple policing strategies, and that

Hypothesis 2b: the relationship between an officer's identification with their organization and that officer's support for any policing strategy will be moderated by the amount of emphasis their department places on that strategy.

Methods

The following section details the data and methodology employed to test these hypotheses.

Data

This study employs data collected as part of Phase II of the National Police Research Platform (NPRP). The NPRP fielded 3 surveys to a stratified random sample of 88 agencies with 100-3,000 sworn personnel was drawn from the 2007 Law Enforcement Management and Administrative Statistics (LEMAS) database (Rosenbaum et al., 2015).[27] Selection criteria for participation agencies considered agency size (number of sworn personnel), agency type (municipal police or sheriff agencies), and geographic location (Northeastern, Midwest, Southern, and Western United States). The project received a relatively well rounded representation of agencies from across the nation

[27] See Cordner, 2017; Cronin, McDevitt, & Cordner, 2017; McCarty & Dewald, 2017; Rosenbaum, 2017 for additional information

(McCarty & Dewald, 2017; Rosenbaum & McCarty, 2017). In addition to the agencies identified though the stratified random sample, the Phase II also invited twelve agencies that had participated in the first phase of project development. Over the course of two years, all sworn and civilian law enforcement personnel in the 100 participating agencies were invited to respond to three surveys. The surveys covered a variety of topics including perceptions of department policy, interpersonal interactions with supervisors, support for several different policing approaches, and demographic information.

Data for this study are drawn from responses to the third Law Enforcement Organizations (LEO C) survey. Of the 100 agencies who were invited to participate in Phase II of the project, 89 agencies participated in the final survey, which was fielded between October 2014 and February 2015. The survey was hosted online through Qualtrics, Inc©, and was disseminated via email from participating agency leaders to all sworn and civilian personnel in their department. The survey presented an informed consent and the option to proceed with the survey. The survey itself asked respondents about their perceptions of their supervisors, attitudes towards procedurally fair policing practices, and job satisfaction. The mean response rate for participants within agencies was about 35%, and the survey took about 18 minutes to complete (McCarty & Dewald, 2017). Responses with complete information on all relevant variables are included in my analysis, resulting in a sample of 9,396 officers across 85 agencies.

Measures

All items measuring internal procedural fairness and organizational identification were coded so that higher scores indicated a greater amount of the latent construct being measured. Descriptive statistics for all measures are shown in Table 4.1.

As demonstrated in Chapter 2, internal procedural fairness is best conceptualized and operationalized as multiple interrelated judgements of procedural fairness from multiple sources, necessitating separate measures for each source of procedural fairness. I therefore rely on two internal procedural fairness measures, separating assessments regarding the fairness of department policy and assessments regarding the fairness of supervisors. Department policy procedural fairness is measured using four Likert-type

Table 4.1
Summary Statistics for Outcomes and Predictors

	m/%
Support for Procedurally-Fair Policing	
Oppose	2.75%
Neutral	20.02%
Support	77.23%
Support for Community-Based Policing	
Oppose	7.64%
Neutral	18.54%
Support	73.82%
Support for Broken-Windows Policing	
Oppose	6.13%
Neutral	21.05%
Support	72.82%

Summary Statistics for Outcomes and Predictors (Cont.)

	m/%
Organizational Emphasis	
Emphasis for Procedurally Fair Policing	
Not at All	13.83%
A Little Bit	6.11%
Somewhat	21.49%
A Great Deal	32.18%
Top Priority	26.39%
Emphasis for Community-Based Policing	
Not at All	8.44%
A Little Bit	8.93%
Somewhat	23.28%
A Great Deal	38.54%
Top Priority	20.82%
Emphasis for Broken-Windows Policing	
Not at All	27.42%
A Little Bit	14.69%
Somewhat	29.68%
A Great Deal	20.97%
Top Priority	7.25%
Individual Predictors	
Gender (Female = 1)	14.78%
Education (College and Beyond = 1)	56.31%
Race/Ethnicity (White = 1)	76.63%

N = 9396

items capturing officer perceptions of fairness in the treatment and decision making of their department (i.e. *Officers are treated with respect during formal disciplinary hearings*). Supervisor procedural fairness is measured using four Likert-type items which capture officer perceptions of the fairness of treatment and decision making from their direct supervisor (i.e. *Indicate how often your supervisor treats employees with*

respect).[28] Consistent with prior work using the LEO C data (Rosenbaum & McCarty, 2017), I use two Likert-type items as indicators of organizational identification (*The agency's goals are important to me; I am strongly committed to making the agency successful*). Descriptive statistics for individual items and additional scale information are provided in Appendix A.

I rely on observed [single item] indicators of support for three distinct policing approaches: procedurally-fair policing, community-based policing, and broken-windows policing. Officers were asked to rate their support for each of these three policing strategies (*What is your view of the ____ approach?)* on a single, 5-point Likert-type scale ranging from "strongly oppose it" to "strongly support it. This measure was then collapsed into a three-category variable, combining "strongly oppose" with "oppose" and "support" with "strongly support." As shown in Table 4.1, about 3% of the sample expressed some level of opposition to the procedurally-fair policing approach, while about 6% expressed some level of opposition to the broken-windows approach and 8% expressed opposition to the community-based policing approach. For each of the three policing strategies, roughly 20% of respondents reported neither opposition nor support.

Hypothesis 2b suggests that the relationship between identification with organizational norms and support for each policing strategy should be moderated by the amount of emphasis an agency places on each approach. I rely on three observed

[28] While analysis reported in Chapter 2 suggests the procedural fairness of other sources, such as department leaders and peers, may have their own distinct association with various outcomes, LEO C did not assess respondents' perceptions of fairness of treatment and decision-making from either of these sources.

indicators measured on a Likert-type scale ranging from "0=not at all" to "4=a top priority" to assess how much an organization emphasizes each policing strategy.[29] About 20% of officers responded that their department placed little to no emphasis on procedurally fair policing, while about 17% reported little to no emphasis on community-based approaches. Over 42% of respondents, however, reported little to no emphasis on broken-windows policing.

Analysis Plan

I begin my analysis by examining the relationship between internal procedural fairness, organizational identification, and support for procedurally fair policing, community-based policing, and broken windows policing. I hypothesize that identification will fully mediate the relationship between internal procedural fairness and support for each of the three policing strategies. To assess if this is the case, I rely on structural equation modeling in *MPlus 8.2* to compare the fit of three potential specifications: no mediation, partial mediation, and full mediation. I then examine the extent to which organizational emphasis moderates the relationship between organizational identification and officer support for each of the three strategies. Comparing a series of nested models, I identify and interpret the structure that best fits the data. Given the type and distribution of my outcome variables, I rely on a multinomial

[29] Respondents also had the option of selecting "Don't Know" when asked how much their department emphasized a particular strategy. All "don't know" responses were recoded into the "not at all" category for analysis, arguing that if an officer were not aware of how much emphasis their department is placing on a particular strategy, this is akin to perceiving the department as not emphasizing the strategy at all.

logistic link function and maximum likelihood estimation to appropriately model officer support for procedurally fair policing.[30] Additionally, I rely on the "cluster" command in *MPlus* to adjust results due to respondent grouping by agency (Muthen & Satorra, 1995; Muthén & Muthén, 2011). All latent variables are standardized. The next section details the results of these analyses.

Results

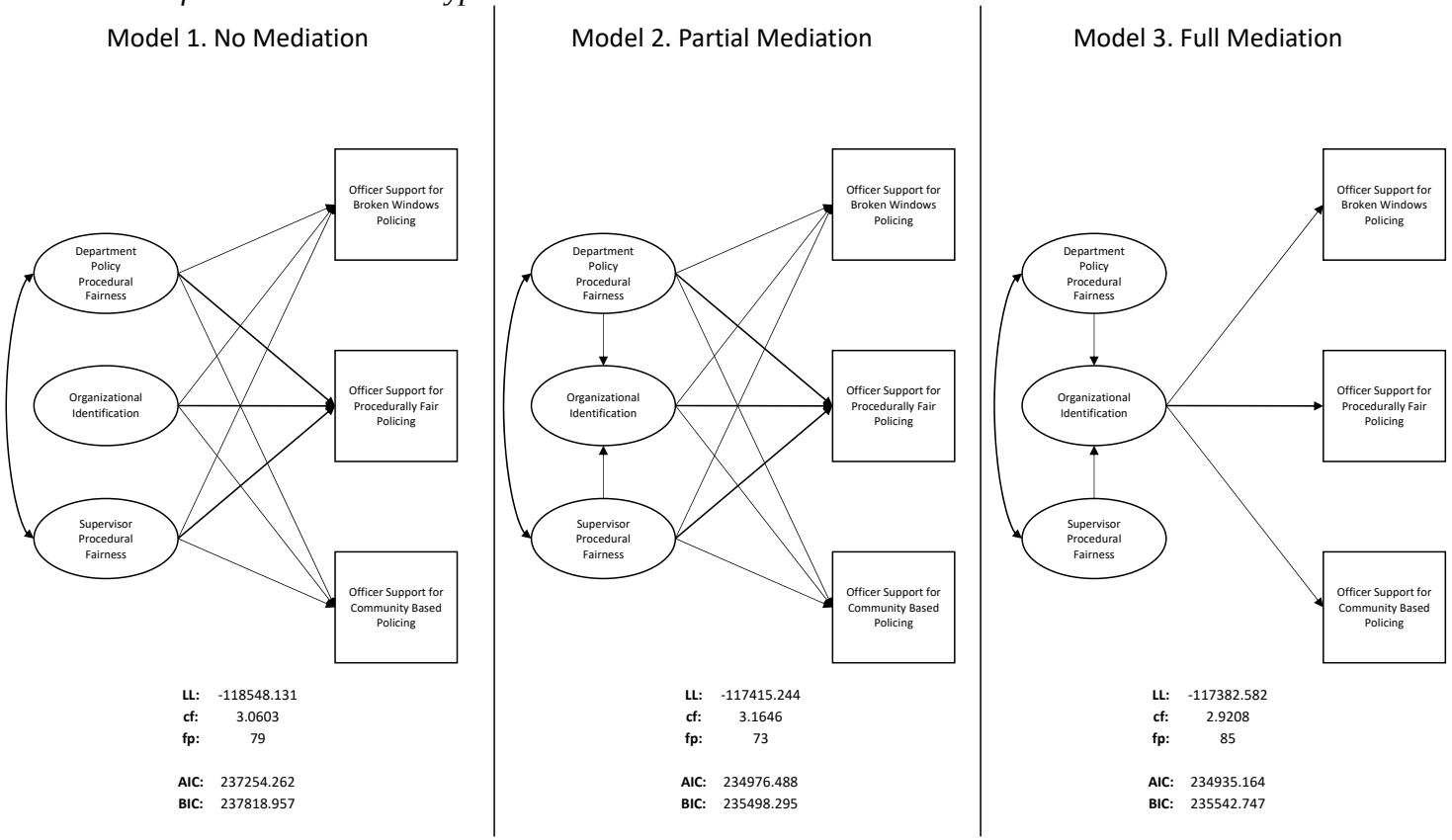
Organizational Identification Mediation Hypothesis

To test my hypothesis that the relationship between internal procedural fairness and support for any policing strategy will be mediated by an officer's identification with their agency's goals and values, I compare three hypothetical path models (see Figure 4.1). The first model assumes organizational identification does not mediate the association between internal procedural fairness and officer support for each strategy, constraining paths from internal procedural fairness to organizational identification at zero while freely estimating associations between internal procedural fairness and support for each strategy. The second model offers the least restrictive hypothetical structure, allowing organizational identification to partially mediate the relationships, but still estimating direct paths from internal procedural fairness to officer support. The last model is most similar to the expectations of the group engagement model, allowing

[30] Initial analysis using an ordered logit link function indicated violations of the proportional odds assumption. Analysis thus relies on a multinomial logit approach, with neutral responses (neither support nor oppose) serving as the reference category. The use of a multinomial logit link function and the introduction of interaction effects require the use of the MLR estimator (Muthén & Muthén, 2011).

Figure 4.1

Organizational Identification Mediation Hypothesis



internal procedural fairness to shape organizational identification, but restricting direct paths from procedural fairness to support for each strategy at zero.

Given the nested nature of these three hypothetical structures, I use the Satorra-Bentler scaled chi-square difference test to compare the fit of the three models. Results indicate that the partial mediation model provides a better overall fit for the observed data compared to both the no mediation model (TRd = 1132.89, $df = 6$) and the full mediation model (TRd =45.44, df=12). This suggests that in support of Hypothesis 1a, the relationship between internal procedural fairness and support for any policing strategy is indeed mediated by an officer's identification with their organizational goals and values. However, the results also indicate that organizational identification does not fully mediate the association between internal procedural fairness and officer support.

Table 4.2 reports the coefficient estimates and significance tests for the associations between procedural fairness, organizational identification, and support for each policing strategy, using a partial mediation model to explain the relationship between internal procedural fairness, organizational identification, and each of the outcomes. Results indicate that both department procedural fairness and supervisor procedural fairness are positively associated with an officer identification with organizational goals and norms. Interestingly, the results suggest that department procedural fairness has a substantially stronger impact on officer identification with organizational norms and values comparted that of supervisor procedural fairness.

Table 4.2

Predicting Support for Procedurally-Fair, Community-Based, and Broken-Windows Policing

	Organizational Identification		Community-Based Policing				Broken Windows Policing				Procedurally Fair Policing			
			Opposition		Support		Opposition		Support		Opposition		Support	
	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e
Organizational Identification			-0.24**	0.05	0.49**	0.04	-0.10	0.07	0.39**	0.05	-0.27**	0.08	0.44**	0.04
Department Policy PF	0.67**	0.04	-0.18*	0.09	0.13**	0.06	-0.16	0.11	-0.22**	0.06	-0.25	0.14	-0.14*	0.06
Supervisor PF	0.11**	0.02	-0.01	0.04	-0.04	0.03	-0.07	0.05	0.03	0.03	-0.13	0.07	-0.02	0.04
Age	0.01	0.01	0.02*	0.01	0.01**	0.01	0.01	0.01	0.01**	0.00	0.01	0.01	0.01**	0.00
Gender (Female = 1)	0.11*	0.04	-0.56**	0.18	0.15	0.09	-0.12	0.14	-0.01	0.08	0.14	0.21	0.34**	0.08
Education (College = 1)	-0.05	0.03	0.24	0.13	0.29**	0.06	0.14	0.13	0.28**	0.06	0.43*	0.20	0.05	0.08
Race (White = 1)	-0.18**	0.03	0.10	0.13	-0.21**	0.06	-0.05	0.12	0.16	0.08	-0.47**	0.15	-0.07	0.07

*p <0.05, **p < 0.01

Examining the relationships between internal procedural fairness, organizational identification, and support for community-based policing, the results indicate that as officers become more committed to agency goals and norms, they become substantially less likely to oppose community-based policing strategies and dramatically more likely to support them. Additionally, the results reveal that procedurally fair department policies are associated with a decreased likelihood of opposition and an increased likelihood of support for community-based strategies. Interestingly, supervisor procedural fairness does not have a direct association with support for community-based policing.

Turning to support for broken windows policing, my analysis reveals that similarly to support for community policing, as identification increases, so does the likelihood that an officer expresses support for the broken-windows approach. Results suggest, however, that the opposite may not be true; there is no significant association between changes in organizational identification and the likelihood of opposing broken-windows. Examining the two procedural fairness measures, my analysis indicates that the procedural fairness of department policy is not associated with a change in the likelihood of opposing broken-windows policing, but it is associated with a *decrease* in the likelihood of supporting broken-windows policing. Consistent with the first outcome, supervisor procedural fairness does not appear to have a direct association with support for broken-windows policing.

Finally, my analysis reveals a similar pattern of associations when examining support for procedurally fair policing practices. As organizational identification increases, officers become less likely to oppose procedurally-fair policing strategies and

more likely to support using procedurally-fair tactics. Additionally, increases in department policy procedural fairness are associated with a decline in the likelihood of supporting procedurally fair policing strategies. Finally, supervisor procedural fairness does not appear to have a direct association with support for procedurally fair policing. In answer to Hypothesis 2a, these results indicate that organizational identification is positively associated with support for multiple policing strategies.

Moderating Support for Policing Strategies

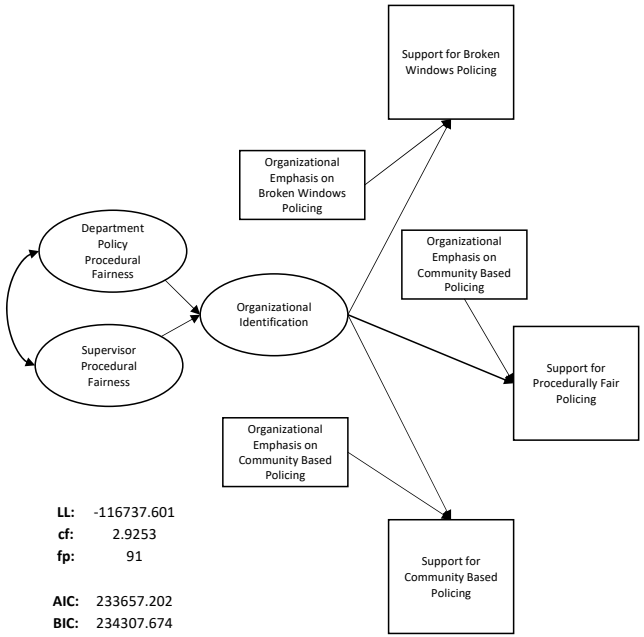
I next assess the role of organizational emphasis in shaping the relationship between organizational identification and support for each strategy. The group engagement model predicts that individuals who experience internal procedural fairness identify more strongly with organizational norms and values and will feel obligated to follow group rules. Importantly, this process occurs regardless of what those norms and goals happen to be. The relationship between identification and support for a specific strategy should therefore be conditioned by the amount of emphasis an organization places on that particular strategy. Further, organizational identification should not push officers towards a particular strategy over another if a department places no emphasis on any specific strategy.

To test these hypotheses, I first compare the fit of two models: the first estimating the direct effect of organizational emphasis on support for each of the three strategies, and the second introducing an interaction term between organizational identification and organizational emphasis. The Satorra-Bentler scaled chi-square difference test suggests that the inclusion of interaction terms between organizational identification and emphasis

Figure 4.2

Organizational Emphasis Moderation Hypothesis

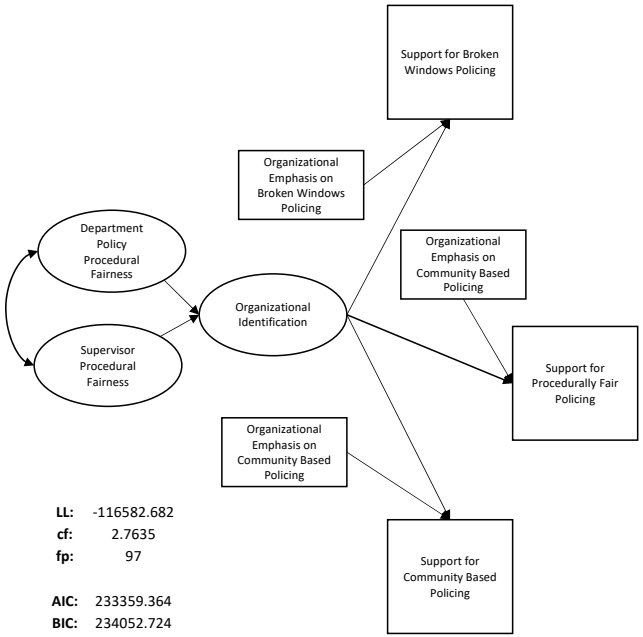
Model 1. Direct Effect Only



LL: -116737.601
cf: 2.9253
fp: 91

AIC: 233657.202
BIC: 234307.674

Model 2. Moderating Emphasis



LL: -116582.682
cf: 2.7635
fp: 97

AIC: 233359.364
BIC: 234052.724

Note: Paths from Internal Procedural Fairness to Support for Each Strategy Not Shown

for each strategy substantially improved model fit (TRd = 1000.98, $df = 6$). Additionally, differences in both the AIC and BIC fit statistics indicate the inclusion of an interaction term substantially improves model fit ($\Delta AIC = 297.84;\ \Delta BIC = 254.95$) (Burnham & Anderson, 2004). Collectively, a comparison of fit statistics indicates that the inclusion of an interaction between organizational identification and organizational emphasis more accurately represents the relationship between these constructs.

Table 4.3 reports coefficient estimates for the structural portion of this model. I find a significant interaction effect between organizational identification and emphasis on each of the three policing strategies. That is to say, organizational identification and organizational emphasis on community-based policing strategies have a significant interaction effect when predicting support for community-based policing, while organizational identification and emphasis on broken-windows policing have a significant interaction effect when predicting support for broken-windows policing. Additionally, I find that the relationship between organizational identification and support for each of the three strategies is similar across policing strategies when departments place no emphasis on any strategy.[31]

[31] Because the model includes interaction terms, the coefficients for organizational identification should be interpreted as the effect of identification on support for a particular strategy when that strategy is not emphasized at all by the department (the effect of organizational identification when emphasis = 0).

Table 4.3

Moderating Support for Procedurally-Fair, Community-Based, and Broken-Windows Policing

	Organizational Identification		Community-Based Policing				Broken Windows Policing				Procedurally Fair Policing			
			Opposition		Support		Opposition		Support		Opposition		Support	
	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e	β	s.e
Organizational Identification			-0.25**	0.08	0.14**	0.05	-0.04	0.07	0.13*	0.05	-0.27**	0.11	0.13**	0.05
Department Policy PF	0.68**	0.04	-0.17	0.09	0.08	0.06	-0.15	0.11	-0.25**	0.05	-0.23	0.14	-0.16*	0.06
Supervisor PF	0.11**	0.02	-0.01	0.04	-0.03	0.03	-0.07	0.05	0.04	0.03	-0.13	0.07	-0.01	0.04
Org Emphasis Community Based			0.12	0.07	0.27**	0.03								
*Identification			0.02*	0.01	0.18**	0.02								
Broken Windows							0.06	0.08	0.34**					
*Identification							-0.04	0.03	0.22**	0.02				
Procedurally Fair											0.21*	0.09	0.74**	0.05
*Identification											0.01	0.04	0.18**	0.18
Age	0.00	0.02	0.02*	0.01	0.01**	0.00	0.00	0.01	0.01**	0.00	0.00	0.01	0.01**	0.00
Gender	0.11*	0.04	-0.56**	0.16	0.16	0.09	-0.12	0.14	-0.01	0.08	0.16	0.21	0.34**	0.08
Education	-0.06*	0.03	0.24	0.13	0.29**	0.06	0.14	0.13	0.28**	0.06	0.42*	0.20	0.06	0.08
Race	-0.178**	0.03	0.10	0.13	-0.20**	0.06	-0.06	0.12	0.17*	0.08	-0.47**	0.15	-0.06	0.07

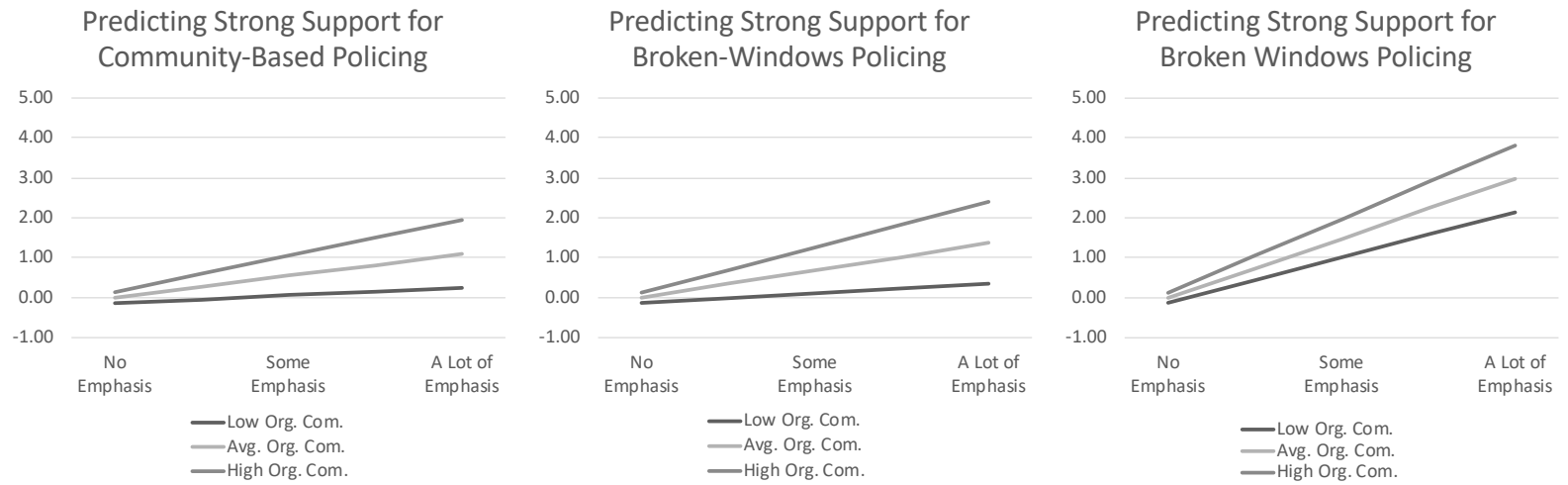
Looking specifically at officer support for community-based policing practices, I find that officers who express an average amount of identification with their organization,[32] increased organizational emphasis on community-based policing is associated with an increased likelihood of supporting the strategy. Changes in organizational emphasis are not, however, associated with changes in the likelihood of opposing community-oriented policing for those officers. Additionally, I find that even when community-based policing is not emphasized by the department, increased identification is associated with a lower likelihood of opposing community-based policing and a higher likelihood of supporting community-based policing. Finally, the results reveal a significant interaction between identification and organizational emphasis on community-based policing when predicting the likelihood of supporting community-based policing over remaining neutral. This suggests that as organizational emphasis on community-based policing increases, officers who identify strongly with their agency are more likely to support the strategy over those who do not identify as strongly with their department.

Turning to support for broken windows policing, a similar pattern emerges. Organizational identification is associated with increases in the likelihood of support for the strategy when the department places no emphasis on broken-windows policing. Department policy procedural fairness is associated with a decrease in the likelihood of

[32] All factor variables were constrained to a mean of 0 and a standard deviation of 1. Officers with an organizational identification factor score of 0 can thus be thought of as having an average amount of identification.

Figure 4.3

Interaction Effects Predicting Strong Support for Community-Based, Procedurally-Fair, and Broken-Windows Policing.



supporting broken windows policing but is not associated with changes in the likelihood of opposing the strategy. Similar to support for community-based policing, changes in supervisor procedural fairness are not associated with deviations from the neutral category. Again supporting my emphasis moderation hypothesis, the results suggest that the magnitude of change in the likelihood of supporting broken-windows policing attributable to variations in the amount of emphasis placed on the strategy by an organization is greater for individuals who express higher levels of identification with their organization.

Similar to support for the other two policing strategies, support for procedurally fair policing is strongly influenced by organizational identification. As with the other strategies, results of this analysis suggest that officers who report higher levels of department policy procedural fairness are less likely to express support for procedurally fair policing practices, while perceptions of supervisor procedural fairness appear to have no direct association with support for the strategy.

Discussion and Conclusion

While often starting with the best of intentions, countless attempts to reform American policing have failed to elicit lasting change in police behavior. Even when faced with intense public support and political will, attempts to change police practices often fail to navigate a gauntlet of institutional and cultural barriers that "eat policy for lunch" (President's Task Force on 21st Century Policing, 2015, p. 11). Due to a contradiction between the job of a police officer and the structure of police organizations

(Tyler et al., 2007), the success or failure of reform efforts are determined by their ability to generate support among rank and file officers to adopt the changes.

Recently, Trinkner and Tyler (2019) argued that one way in which departments could build support for reform efforts was to invest in procedurally fair internal practices. Drawing on the group engagement model (Blader & Tyler, 2009; Tyler & Blader, 2003), we argued that officers who experience fairness are more likely to adopt the values and goals of their department, a bond that then shapes their support for a variety of policing strategies. We also identified an important caveat for the utility of internal fairness in shaping officer behaviors: fairness in police departments should not, in and of itself, push officers towards a particular strategy. Instead, internal fairness will simply make it more likely that officers feel a bond with their agency; a bond which then encourages support for whatever strategy or approach each department's leadership chooses to emphasis. We should therefore expect that experiences of internal fairness will be associated with support for multiple, potentially contradictory policing strategies. Additionally, we should expect that officers who identify more strongly with their department are more likely to express support for the strategies their department emphasizes.

Focusing specifically on the role of procedural fairness within the GEM, I empirically assess several hypotheses emanating from our application of the group engagement model to police organizations in this study. First, I examined whether an officers' identification with agency goals and norms mediates the relationship between experiences of internal procedural fairness and support for three policing strategies. Additionally, I tested our emphasis moderation hypothesis, which suggests that the

relationship between organizational identification and support for each of the three strategies will be moderated by the amount of emphasis the organization places on the strategy.

Consistent with the GEM's identity mediation hypothesis (Blader & Tyler, 2009; Tyler & Blader, 2003), my results indicate that organizational identification partially mediates the relationship between internal procedural fairness and support for procedurally fair policing, community policing, and broken windows policing. Officers who felt their supervisors and departments' policies treated them in a procedurally fair manner expressed higher identification with organizational goals and norms. That is to say, as officers experienced procedural fairness within their departments, they were more likely to align their attitudes and values with those espoused by the departments. This identification with their organization was then significantly associated with an officer's support for several policing strategies. Looking across models, I found that when officers expressed increased identification with their organization, they were significantly less likely to report opposition to community-based and procedurally-fair policing practices, and significantly more likely to express support for broken-windows, community-based, and procedurally-fair policing.

In this study, I also assessed the role of organizational emphasis in shaping the relationship between organizational identification and support for different policing strategies. The GEM suggests that as officers experience internal fairness and identify more strongly with their department, they will become more likely to adopt the policies and procedures the department emphasizes. In my analysis, I found that the relationship

between organizational identification and support for each policing strategy was moderated by the amount of emphasis the agency placed on each strategy. Importantly, when the moderation term was included in the model, the results suggested that the magnitude of the direct effects for organizational identification were relatively equal across policing strategies. Put another way, when departments placed no emphasis on any strategy, changes in organizational identification were associated in similar amounts of change in the likelihood of supporting all three strategies. This suggests that, absent emphasis being placed on a particular strategy, officers do not appear to be pushed towards supporting a specific policing approach. Additionally, the magnitude and direction of the interaction terms were similar across police strategies. This also points towards stability in the influence of identification in shaping support for different policing strategies.

Collectively, the findings reported here highlight the power of fairness in shaping officer support for policing strategies. As police officers experience procedural fairness from their supervisors and departments, they become more likely to adopt attitudes and values that are consistent with agency goals and norms. This process of identification and identity alignment, in turn, encourages officers to voluntarily adhere to agency policies and support their agencies philosophy towards policing. When applied to reform efforts, investments in internal fairness offer department leaders a useful tool for building momentum for new approaches to policing.

It is important to remember, however, that this study also suggests that fairness within police organizations is a double-edged sword. Reformers seeking to change police

behavior must understand that investments in internal fairness are not a substitute for discussions of appropriate policing strategies. Contrary to what some have argued (Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017), internal procedural fairness *will not inherently* push officers towards a specific set of behaviors; experiences of internal fairness can just as easily bond officers to zero-tolerance policing as it can community policing. As shown here, when an agency is not emphasizing a particular strategy, an officer's identification with their agency pushes officers equally towards all three strategies. It is only when organizations start to emphasize a specific strategy that we see differences. In other words, internal procedural fairness is only associated with support for a specific strategy *if the department is emphasizing* that strategy. Thus, while internal procedural fairness can be a useful tool for encouraging adoption of new policies, it is the norms and values espoused within the department that direct officers towards a specific set of behaviors. If departments plan on using internal procedural fairness as a mechanism for building officer support for a new policing approach, they must ensure that the policies and norms espoused within the department place value on the new policing approach. In concrete terms, if a department wishes to encourage officers to adopt procedurally fair policing practices, it is not enough to simply adopt internal procedural fairness. The department must also look internally at the norms espoused within the department, ensuring that the collective identity shared within the department is in line with procedurally fair policing practices. They should ensure that formal mechanisms, such as performance evaluations, measure and reward procedurally fair behavior and do not encourage alternative forms of enforcement.

The current study is not without some limitations. First, as demonstrated in Chapter 2, internal procedural fairness is best conceptualized as a series of interrelated judgements reflecting the fairness of several internal sources, and that each source may have its own relationship with particular attitudes or behaviors. The data used in this study only captured two potential sources, thus limiting my ability to interpret the direct and indirect effects of internal procedural fairness on support for each policing strategy due to omitted variable bias. Additionally, I am unable to definitively say whether department policy procedural fairness is actually that much stronger of a predictor of organizational identification, or if the two internal procedural fairness measures are capturing fairness from other sources as well. Future research that includes measures of peer procedural fairness and department leadership procedural fairness should attempt to replicate the analysis presented here. Second, support for each of the three policing strategies was captured through a single survey question at a time where there was substantial pressure for departments to support the adoption of reforms to improve communities' perceptions of trust and legitimacy in the police. It is possible that officers viewed reporting support for community-based and procedurally-fair policing practices as socially desirable, artificially inflating stated support for the strategies. Future research should attempt to rectify this by focusing on attitudes towards behaviors associated with each strategy, rather than asking the officers explicitly about their support for the strategy. Finally, the measure utilized to capture organizational emphasis is a blunt tool that does not dig into the various mechanisms by which departments can emphasize a particular strategy. The measure of organizational emphasis reflected the officer's

perception of how much emphasis their department placed on a particular strategy. Such an approach potentially conflates how much an officer supports a particular strategy with how much the department emphasizes that strategy. While the measure allowed for an initial test of the hypotheses generated from the group engagement model, there is a need for further theoretical and methodological development in regard to what it means for a department to emphasize a specific strategy before replicating this analysis. Future research could seek to triangulate organizational emphasis by capturing not only officer perceptions, but also supervisor and department leader perceptions of emphasis, as well as organizational behavior measures.

In this study, I examined the role of social identity and organizational emphasis in shaping police officer support for several policing strategies. I found that, consistent with prior work examining social identity and fairness, experiences of internal procedural fairness within police organizations shape an officer's identification to agency goals and norms. Additionally, I found that as officers become more committed to the success of their agency, and adopt the norms and values of their department, they become more likely to support policing strategies that their departments emphasis. The results suggest that while internal procedural fairness will lead an officer to adopt the norms and values of their department, it is an organizations' emphasis on specific strategies that determines what strategies officers become committed to. This indicates that at the end of the day, the ability of internal procedural fairness to lead to better policing strategies is only as good as the policies and values of the department.

CHAPTER 5

NEW DIRECTIONS FOR PROCEDURAL FAIRNESS RESEARCH IN POLICING

Decades of research across numerous fields have continually shown that people are sensitive to the fairness they experience (Colquitt et al., 2001, 2005; Greenberg, 2011). Whether examining the interpersonal treatment experienced within a group or the decision making of our bosses and organization's leaders, scholars have found time and again that experiences of fairness play a vital role in shaping the attitudes and behaviors of individuals. Over the past several years, criminal justice scholars have built upon this knowledge, examining the role of procedural fairness in shaping police officer behaviors (Donner et al., 2015; Trinkner & Tyler, 2020). This initial exploration suggests that, just like employees in any traditional organization, the attitudes of police officers and their behaviors when interacting with citizens are strongly influenced by the fairness they experience within their organization.

In this dissertation, I started by reviewing several key findings from this body of knowledge, identifying theoretical and methodological issues present in the current literature. First, I highlighted an apparent divergence in how scholars have conceptualized and measured internal procedural fairness within police departments. In Chapter 2, I compared several of these divergent approaches. My analysis indicates that officers appear to form separate, correlated judgements regarding the procedural fairness of multiple sources. This suggests that future research should examine the unique relationships each source of internal procedural fairness may have in shaping officer attitudes and behaviors. I then discussed the rather underwhelming state of criminal

justice theory related to procedural fairness within police departments, highlighting a need for rigorous theoretical development and empirical testing regarding our understanding of what internal procedural fairness actually does within police departments. In Chapter 3, I compared two theoretical models for understanding the relationship between internal procedural fairness and police officer behavior, finding that the social identity perspective commonly used in other organizational fairness research applies to police organizations and offers a better explanation for the mechanisms connecting internal procedural fairness and officer support for procedurally fair policing. Building upon this study, in Chapter 4 I tested several hypotheses emanating from a theoretical model that melds procedural fairness theory and social identity theory to understand why people engage in groups (Blader & Tyler, 2009; Tyler & Blader, 2000, 2003). Consistent with the model, I found that identity played a vital role in shaping police officer support for multiple policing strategies, a relationship that was largely shaped by what strategies were emphasized by the officers' department. Collectively, these studies offer the steps towards a more theoretically and methodologically rigorous understanding of procedural fairness within policing.

Divergent Measures and Conceptions of Fairness

One of the striking and troubling characteristics of the current body of knowledge detailing procedural fairness within police departments is the array of divergent approaches to conceptualizing and measuring procedural fairness itself. As discussed in Chapter 2, the only consistency across studies seems to be a general agreement about what procedurally fair behavior is. When measuring internal procedural fairness within

police organizations, scholars have tended to adopt measures for the four elements of procedural fairness commonly used during police-citizen encounters (i.e. dignity and respect, trustworthy motives, neutrality, and voice).[33] Unfortunately, this appears to be the only common measurement convention. There are substantial differences in which source of fairness scholars measure in their studies, as well as differences in whether or not to combine sources of fairness into a single judgement.

Troublingly, there is little discussion of the theoretical and practical implications of these measurement decisions. Measurement decisions reflect how we conceptualize social phenomena. For instance, when researchers measure employee perceptions of supervisor procedural fairness and claim these items as manifest variables for internal procedural fairness (Haas et al., 2015; Sun et al., 2019; Van Craen & Skogan, 2017), they are either assuming that internal procedural fairness *only* comes from supervisors, or else that the behavior of all sources of fairness (i.e supervisors, peers, department leaders, department policy) equally contributes to a single procedural fairness judgement making it redundant to measure other potential sources. As demonstrated in Chapter 2, either conception is somewhat problematic. It is clear that the procedural fairness experienced from supervisors and peers influences officer attitudes and behaviors. More importantly, it is clear that judgements regarding the procedural fairness of both sources have unique associations with a variety of outcomes, somewhat undercutting the assumption that

[33] In general, procedural fairness is broken down into four aspects or elements: dignity and respect, trustworthy motives, neutrality, and voice (Mazerolle et al., 2014; Nagin & Telep, 2017) within the policing literature, although some researchers also include benevolence as an aspect or element of procedural fairness (Trinkner et al., 2016).

internal procedural fairness only comes from supervisors. As demonstrated in both Chapter 2 and the broader literature, studies of internal procedural fairness that separate sources of procedural fairness into unique judgments tend to find that each source has its own relationship with the outcomes (Bradford & Quinton, 2014; Bradford et al., 2014; Rosenbaum & McCarty, 2017). This further indicates that it is inappropriate to assume that perceptions of supervisor behavior reflect a universal underlying procedural fairness judgement.

Inconsistency of measurement in policing studies is not limited to the sources and dimensions of procedural fairness. Within the policing literature, there is a clear divergence in how scholars conceptualize other types of fairness within organizations. There have been two general approaches to measuring organizational fairness: 1) a composite measure of items capturing procedural, distributive, and informational fairness (Nix & Wolfe, 2017; Wolfe & Piquero, 2011), or 2) separate measures for procedural and distributive fairness (Bradford & Quinton, 2014; Tankebe, 2014b). More commonly, studies within police agencies have sidestepped this issue by focusing exclusively on questions of procedural fairness (Sun et al., 2019; Van Craen & Skogan, 2017; Wu et al., 2017).[34] Within the psychology and business management literature, organizational

[34] It is worth noting that even when studies only focus on the role of procedural fairness, they are weighing in on the broader conceptualization of organizational fairness. As mentioned above, there is disagreement as to whether procedural and interpersonal fairness are distinct constructs or not. According to some organizational scholars (Colquitt, 2001), procedural fairness only refers to the fairness of the decision making process, while interpersonal fairness refers to the fairness of treatment received from decision makers. Within the policing world, procedural fairness has come to be conceptualized as both the fairness of the decision-making process and the fairness of interpersonal treatment (Donner et al., 2015; Mazerolle et al., 2014; Nagin & Telep, 2017; Tyler, 2011), a convention that inherently views interpersonal and procedural fairness as the same thing.

fairness research has broadly identified four types of fairness expected to shape employee behavior: procedural, distributive, informational, and interpersonal, although there is some debate as to whether procedural and interpersonal fairness are distinct constructs or aspects of the same type of fairness (Colquitt, 2001; Colquitt et al., 2001; Greenberg, 2011). As this literature continues to develop, scholars should consider the conceptual implications of measuring organizational fairness as a singular construct versus several related variables.

Connecting the Dots: Internal Fairness and Officer Behavior

As knowledge of procedural fairness within police agencies expands, there is a growing need to adopt and refine theoretical frameworks to explain the relationships observed between internal procedural fairness and a variety of officer attitudes and behaviors. In this dissertation, I conducted two studies that adopt the group engagement model to explain the relationship between internal procedural fairness and several attitudes held by police officers. The group engagement model argues that the key mediator between internal fairness and any psychological or behavioral engagement is one's social identity (Blader & Tyler, 2003c, 2009; Tyler & Blader, 2003). As officers experience fairness within their departments, they become more committed to agency goals and norms and subsequently align their social identity with the values and norms of their agency. Drawing upon this perspective, I examined two questions related to internal fairness and officer behavior.

In Chapter 3, I examined why internal procedural fairness is associated with external procedural fairness. Over the past few years, several studies have documented a

clear association between experiences of internal procedural fairness and officer support for procedurally fair policing practices (Bradford & Quinton, 2014; Trinkner et al., 2016; Van Craen & Skogan, 2017). Some have even gone so far as to claim that the relationship is direct and investments in internal fairness are a viable path to securing officer engagement in procedurally fair policing (Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017). To explain the connection, Van Craen (2016a, 2016b) argues that it can be explained through an application of social learning theory, general strain theory, and aggression transference theory. In his *Fair Policing from the Inside Out* model, Van Craen (2016a, 2016b) argues that there are four mechanisms connecting internal procedural fairness to officer support for procedurally fair policing. First, supervisors model procedurally fair interactions with the officers, who in turn learn to replicate those behaviors when interacting with citizens. The *Inside Out* model also argues that experiences of internal fairness shape trust in citizens, job satisfaction, and internal negative emotions. These three mechanisms are then expected to shape eventual support for procedurally fair policing.

While the *Inside Out* model constitutes a necessary step towards developing an understanding of the mechanisms leading internal procedural fairness to shape officer behavior, the model itself is, at best, incomplete. Most obviously, the *Inside Out* model offers no clear explanation for why several other variables, such as self-legitimacy and organizational identification (Bradford & Quinton, 2014; Bradford et al., 2014; Nix & Wolfe, 2017), would mediate the relationship between internal and external procedural fairness. More broadly, this appears to be a piecemeal attempt to inductively generate an

explanation for the relationship, without offering clear justifications as to whether we can (and should) integrate the numerous theoretical perspectives used to justify each of the "mechanisms." Such an approach to theory development is somewhat problematic, as it omitted critical variables that shape both the underlying process and implications of the model.

In response to Van Craen's (2016a, 2016) *Inside Out* model, I offered an alternative explanation for the relationship. Drawing upon the group engagement model, I demonstrated that organizational identification mediates the relationship between internal procedural fairness and the three indirect mechanisms identified by *Inside Out*. Further, I found that many of the relationships observed in partial tests of the *Inside Out* model, such as the "supervisor modeling" direct effects, were likely a product of omitted variable bias rather than indications of true effects. Collectively, the results from my second study offer empirical support for the inclusion of identification and emphasis as key mechanisms that shape the relationship between internal procedural fairness and support for procedurally fair policing.

An additional implication of the group engagement model is that internal procedural fairness is not expected to lead officers towards any specific strategy. Instead, internal procedural fairness will simply bond officers to organizational goals and norms, but it is the behaviors that the organization emphasizes that shape what strategies the officers will ultimately support (Blader & Tyler, 2009; Tyler & Blader, 2003). In my final study, I found that organizational identification mediated the relationship between internal procedural fairness and support for broken windows, community-based, and

procedurally-fair policing. Importantly, my analysis also found that when agencies placed no emphasis on any policing strategy, changes in organizational identification were associated with equal changes in support for each of the three policing strategies. The analysis also revealed that officers who experienced higher levels of identification with their organization were more likely to adopt policing strategies their department emphasized. This suggests that, consistent with the group engagement model, experiences of internal procedural fairness lead officers to feel a stronger sense of identification with agency goals and norms. Importantly, this identification does not push officers towards supporting a specific strategy; it simply makes it more likely that the officers will adopt whatever strategies the department emphasizes.

The findings from the final study call into question the utility of a core assumption and implication of the *Inside Out* model. For the past several years, some have argued that a direct investment in internal fairness would be a viable path to securing officer engagement in procedurally fair policing (Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017). The analysis presented in Chapter 3 and Chapter 4 suggest that this view is optimistic at best, and potentially dangerous at worst. Internal fairness does not create outcomes. The analysis presented here affirms a core assumption of the GEM: that internal fairness is a tool by which groups and organizations can bond members to a collective identity. For police departments, this means that internal procedural fairness will *not* replace or override discussions of appropriate policing strategy; It can just as easily bond officers to "bad" policing strategies as "good. It is up to the departments to decide what strategies to adopt and emphasize. Internal procedural fairness is simply a

tool that departments can use to encourage compliance with whatever strategies department leadership chooses to implement.

Next Steps

The overarching goal of this dissertation was to understand the mechanisms explaining *why* procedural fairness shapes police officer behavior. The three studies presented in this dissertation offer several steps towards developing a more rigorous understanding of the mechanisms connecting internal procedural fairness within police departments to police officer behavior. While this dissertation focused primarily upon measurement and methodological issues present in the study of internal procedural fairness within police departments, the three studies presented generate several significant theoretical questions. It is necessary to consider why it is important to acknowledge different sources of fairness when examining procedural fairness within police departments. It is also necessary to consider the implications of social identity and organizational emphasis playing prominent roles in shaping officer behavior.

My exploration of the sources of procedural fairness presented in Chapter 2 raises an important question as to the nature of the core construct: is procedural fairness a macro-level judgement or several mezzo-level judgements. As originally conceptualized, procedural fairness was a judgement reflecting the perceived fairness of procedures used during some formal decision making process (Thibaut & Walker, 1975). As policing scholarship began to explore procedural fairness, the concept was expanded to include a interpersonal treatment component, becoming a judgement of the quality of treatment and the quality of decision making experienced by an individual (Tyler, 2006b; Tyler & Huo,

2002). Importantly, scholars have differed in regard to the level of aggregation at which judgements of procedural fairness occur. When treated as a unidimensional (i.e. all sources reflect the same underlying construct), procedural fairness is a judgement that reflects the overall state of an organization. Officers are making an overarching judgement of the procedural fairness of their organizational culture based on experiences of fairness from their departments, supervisors, and peers. In this approach, procedural fairness is a macro-level assessment of the fairness of the overarching organizational culture. Because assessments of procedural fairness shape social identities and group engagement (Tyler & Blader, 2003), the unidimensional approach assumes that it is this state of being at an organizational level that will shape officer behavior. Conversely, when measured as multidimensional (i.e. all sources reflect separate, but related constructs), procedural fairness becomes a series of mezzo-level judgements, rather than a state of being for the organization as a whole. That is to say, procedural fairness judgements reflect specific groups of people within the organization, rather than assessing the overall state of the organization. My analysis presented in Chapter 2 suggests that rather than being a macro-level judgment of the entire organization, procedural fairness is likely a mezzo-level phenomenon, where officers form unique judgements about the procedural fairness of their peers, supervisors, and departments.

If this is the case, it is necessary to consider whether each source of procedural fairness is associated with expected outcomes. While prior research has demonstrated that procedural fairness is positively associated with job satisfaction across a variety of contexts (Colquitt et al., 2001, 2005), my analysis found that peer procedural fairness

does not significantly predict job satisfaction. Additionally, while numerous studies have alluded to a relationship between internal fairness and support for democratic policing principles (Bradford & Quinton, 2014; Trinkner et al., 2016; Van Craen, 2016a, 2016b; Van Craen & Skogan, 2017; Wolfe & Nix, 2016; Wolfe & Piquero, 2011), my analysis found that the fairness of supervisors and department policy were not associated with support for procedurally fair policing. On its face, this seems to suggest that the various sources of internal procedural fairness lack criterion validity. It is important to remember, however, that conceptually internal procedural fairness is not expected to have a *direct* relationship with either of these outcomes. Indeed, the GEM predicts that a relationship between internal procedural fairness and any psychological or behavioral engagement will be mediated by social identity. We therefore cannot interpret the results presented in Chapter 2 as evidence that the procedural fairness of peers does not influence job satisfaction, or that support for procedurally fair policing has nothing to do with the fairness of supervisors or department policy. While none of the analyses speak directly to the relationship between internal procedural fairness, social identity, and job satisfaction, both Chapter 3 and Chapter 4 indicate that department policy procedural fairness and supervisor procedural fairness are both significantly related to officer identification, which in turn is significantly related to support for procedurally fair policing. Thus, department policy procedural fairness and supervisor procedural fairness *indirectly* shape support for procedurally fair policing *through* organizational identification.

Across the analyses presented in Chapter 3 and Chapter 4, I consistently support several hypotheses emanating from the group engagement model. At its core, the GEM

hypothesizes that psychological and behavioral engagement with group goals is shaped primarily by the role the group plays in the construction and maintenance of an individual's social identity (Blader & Tyler, 2009; Tyler & Blader, 2003). The GEM hypothesizes that identity-based judgments are most strongly influenced by fairness of treatment and decision-making within the group. Individuals who experience procedurally fair treatment within a group are more likely to identify strongly with group values and norms. Individuals who identify strongly with their group are then motivated to facilitate group successes because their group is integrated with their own self-concept. Effectively, views of self-worth and self-esteem are linked inexorably to the group or groups to which an individual belongs to. When individuals identify strongly with a group, they see the success of the group and their own personal success and engage in behaviors that are beneficial or desired by the group (Blader & Tyler, 2009). Within a policing context, this means that as officers experience procedural fairness within their organization, they internalize the values and norms of their organizational culture and link their personal self-worth and self-esteem to the success and preservation of that organizational culture. Because of this, it is the values and norms of the organizational culture that shape psychological and behavioral engagement. Officers are internally motivated to support the policies of their department and engage in the practices emphasized by their department because psychological and behavioral engagement in behaviors the group values is perceived as desirable and a means of achieving both personal and group success.

A vital implication of this process of constructing and maintaining identity is that experiences of procedural fairness are not going to shape specific behaviors. As shown in Chapter 3 and Chapter 4, organizational identification is positively associated with a variety of psychological outcomes, including job satisfaction, trust in citizens, negative emotions, and support for several different policing strategies. When police officers identify more strongly with their department, they become more likely to adopt behaviors that are emphasized and valued by their department because they are internally motivated to psychological support and behavioral engagement of group goals. However, as I found in Chapter 4, when the department does not emphasize any particular strategy, officers are just as likely to support democratic policing as they are broken-windows policing. More generally, this indicates that it is the values of the department, not the experience of fairness, that determines what attitudes and behaviors officers get bonded to. Rather than pushing officers towards democratic policing practices (Van Craen, 2016a, 2016b), this suggests that officers can just as easily be bonded to non-community oriented policing styles, such as broken-windows policing, if that is what the internal culture of their department values. Procedural fairness should therefore be thought of as a tool by which departments can secure officer support for policies and procedures but should not be treated as a substitute for a conversation regarding the role of internal police culture in shaping police officer behavior.

As scholarship examining procedural fairness within police departments continues, there is a growing need to move beyond questions of *what* internal procedural fairness is associated with. While it is clear that internal procedural fairness plays an

important role in shaping police officer attitudes and behaviors, numerous theoretical and methodological issues abound in this literature. From a methodological perspective, there is a clear need to develop cohesive conceptual understandings of core constructs and adopt measurement practices that appropriately reflect the concepts we seek to measure. There is also a clear need to further develop and refine theoretical explanations as to *why* procedural fairness matters. This dissertation offers evidence for identity judgements playing a key role and several avenues for further development. As this literature continues to develop, scholars should look to the broader organizational fairness literature and what theoretical expectations have already received testing in other contexts. It is clear that internal procedural fairness matters within police departments; our next steps must be to continue to further examine *why*.

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APPENDIX A

DESCRIPTIVE STATISTICS FOR INDIVIDUAL SCALE ITEMS

	m	s.d	min	max
Procedural Fairness - Department Policy				
How fairly are job assignments given out in this department?	2.25	1.01	1	5
How fairly are special assignments given out in this department?	2.25	1.01	1	5
How fairly are promotions given in this department?	1.93	0.94	1	5
How fair are the officer promotion procedures in this department?	1.91	0.94	1	5
How fairly would you be treated in a formal disciplinary investigation?	2.63	1.01	1	5
How fairly are the regulations defining officer misconduct applied in this department?	2.48	1.08	1	5
Procedural Fairness - Supervisors				
How respectful are your supervisor(s) of you as a person?	3.61	1.05	1	5
How often do your supervisor(s) treat you with dignity and respect?	3.85	0.91	1	5
How confident are you of the good intentions of your supervisor?	3.18	1.03	1	5
How often do your supervisor(s) give you explanations for the decisions they make that affect you?	3.00	1.02	1	5
How impartial are your supervisor(s) when making decisions that affect you?	3.00	0.98	1	5
How often do your supervisor(s) treat you the same way they treat everyone else when making decisions?	3.27	1.01	1	5
How often do your supervisor(s) ask your opinion before making decisions that affect you?	2.64	1	1	5
How often do your supervisor(s) take the time to listen when you express your views?	3.39	0.99	1	5

Procedural Fairness - Peers				
How much do officers in this department respect you as a person?	3.76	0.83	1	5
How often do officers in this department treat you with dignity and respect?	3.97	0.69	1	5
When you interact with officers in this department, how confident are you that they have good intentions?	3.39	0.89	1	5
How often do officers in this department act honestly and ethically when they interact with you?	3.77	0.74	1	5
How even-handed are officers in this department in terms of how they treat you?	3.6	0.83	1	5
How often do officers in this department treat you the same way they treat other officers?	3.59	0.79	1	5
How much do officers in this department care about what you have to say?	3.12	0.91	1	5
How often do officers in this department ask for your opinion on issues?	3.50	0.79	1	5
How much do officers in this department care about what you have to say?				
Job Satisfaction				
Please rate your overall satisfaction with your present work assignment	2.94	0.89	1	4
Please rate your overall satisfaction with your pay rate	2.74	0.87	1	4
Please rate your overall satisfaction with your benefits, including health and retirement	2.48	0.89	1	4
Please rate your overall satisfaction with the [department] as a place to work.	2.68	0.87	1	4
Engagement in In-Role Behaviors				
How often do you fulfill the responsibilities specified in your job description?	4.45	0.64	1	5
How often do you perform the tasks that are usually expected as part of your job?	4.50	0.61	1	5
How often do you work hard on your required tasks as a way of helping the organization?	4.20	0.84	1	5
How often do you adequately complete your required work projects?	4.59	0.62	1	5
How often do you exert your full effort when getting your job done?				

Engagement in Extra-Role Behaviors				
How often do you volunteer to do things that are not required as part of your job description to help the [department]?	3.17	0.98	1	5
How often do you volunteer to help orient new officers?	3.29	1.16	1	5
How often do you put extra effort into doing your work well, beyond what is normally expected of you?	3.82	0.9	1	5
How often do you volunteer to help other officers when they have heavy workloads?	3.81	0.85	1	5
How often do you read and keep up with [department] announcements, messages, memos, etc.?				
Support for Procedurally Fair Policing Practices				
When interacting with community residents, how important is it for you to treat everyone with respect regardless of how they act?	3.58	1.04	1	5
When interacting with community residents, how important is it for people to be treated with respect, regardless of their respect for the police?	3.23	1.15	1	5
How necessary is it to give everyone a good reason for why they are being stopped, regardless of their respect for the police?	3.85	0.96	1	5
How necessary is it to stop and explain when people ask why they are being treated the way they are?	3.63	0.98	1	5
When interacting with community residents, how important is it for police officers to treat all community residents the same way?	3.59	1.05	1	5
When interacting with community residents, how important is it to be impartial with them?	3.94	0.87	1	5
When interacting with community residents, how important is it to allow community residents to voice their opinions when you are making decisions that affect them?	3.53	1.02	1	5
When interacting with community residents, how important is it to let community residents talk, even if they are complaining about their problems?	3.60	0.94	1	5

	m	s.d	min	max
Department Policy Procedural Fairness				
Officers are treated with respect during formal discipline investigations	2.64	0.84	1	4
The disciplinary process is fair	2.35	0.91	1	4
I am encouraged to share my ideas about ways in which the agency can improve	2.4	0.85	1	4
Officers who consistently do a poor job are held accountable	1.92	0.78	1	4
Supervisor Procedural Fairness				
How often does your immediate supervisor encourage input from employees when important decisions must be made?	3.59	1.18	1	5
How often does your immediate supervisor make decisions that are fair and consistent across people and situations?	3.85	1.11	1	5
How often does your immediate supervisor treat employees with respect?	4.28	0.95	1	5
How often does your immediate supervisor listen to employees' concerns?	3.93	1.14	1	5
Organizational ID				
I am strongly committed to making the agency successful	3.33	0.66	1	4
The agency's goals are important to me	3.06	0.68	1	4
Job Satisfaction				
Please rate your overall satisfaction with your present job assignment.	3.20	0.73	1	4
Please rate your overall satisfaction with the agency as a place to work	2.77	0.85	1	4
How satisfied are you with your career prospects - that is, your chances of being promoted to where you think you should be in this organization?	2.61	0.9	1	4

	m	s.d	min	max
Negative Affect				
Think about your experiences on the job. How often do you feel the following?				
I feel burned out from my work	3.20	1.73	1	7
I feel frustrated by my job	3.30	1.84	1	7
I feel emotionally drained from work	3.55	1.84	1	7
I feel used up at the end of the day	3.50	1.96	1	7

	m	s.d	min	max
Department Policy Procedural Fairness				
Officers are treated with respect during formal discipline investigations	2.64	0.84	1	4
The disciplinary process is fair	2.35	0.91	1	4
I am encouraged to share my ideas about ways in which the agency can improve	2.39	0.85	1	4
Officers who consistently do a poor job are held accountable	1.92	0.78	1	4
Supervisor Procedural Fairness				
How often does your immediate supervisor encourage input from employees when important decisions must be made?	3.59	1.18	1	5
How often does your immediate supervisor make decisions that are fair and consistent across people and situations?	3.85	1.1	1	5
How often does your immediate supervisor treat employees with respect?	4.27	0.95	1	5
How often does your immediate supervisor listen to employees concerns?	3.93	1.14	1	5
Organizational ID				
I am strongly committed to making the agency successful	3.33	0.66	1	4
The agency's goals are important to me	3.06	0.68	1	4

APPENDIX B

MODEL SELECTION PROCESS

FOR CHAPTER 2

As mentioned in Chapter 2, part of the model selection process involved examining modification indices to assess local areas of misfit between the measurement models and the data. In this section, I report the fit statistics for the uncorrected models, and then describe the process of examining the indices to explain why it was necessary to relax certain constraints regarding error correlations between pairs of survey items.

Table B1

Uncorrected Measurement Model Fit Statistics

	1-Factor Model	**2-Factor Model**	**3-Factor Model**
RMSEA	0.173	0.150	0.086
CFI	0.523	0.646	0.881
TLI	0.473	0.607	0.866
AIC	38050.394	36862.233	35150.701
BIC	38354.075	37170.516	35468.28

The results of the uncorrected measurement models paralleled those reported in Chapter 2. When comparing the models against each other, there were substantial improvements in all metrics when internal procedural fairness was treated as three factors, rather than as a unidimensional or bidimensional construct. While these findings support the notion that it is appropriate to split the various sources of procedural fairness into unique judgements, the incremental fit statistics for the 3-factor model suggest there was still substantial undiagnosed error within the model.

There are numerous incremental fit statistics commonly used within structural equation modeling. For the purposes of this analysis, I relied on the root mean squared

error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI) to assess adequate model fit. Incremental fit statistics, like the RMSEA, function similarly to p-values in that there is little conceptual difference between a value of 0.049 and 0.051. As such, thresholds for acceptable model fit are inherently arbitrary. That said, scholars tend to view an RMSEA that is less than 0.08 and a CFI and TLI that are greater than 0.90 as an indication of adequate model fit, although some argue in favor of thresholds around 0.05 and 0.95 respectively (Bollen, 1989; Lomax & Schumacker, 2004). Even with the most generous of thresholds, the initial three-factor model could not be considered a good fitting measurement model.

Given the lack of adequate fit, I relied on the modification indices to explore local areas of misfit between the measurement model and the data. A fundamental assumption in a standard CFA model is that the correlation between items is explained through the shared common factor (Maguire, Armstrong, & Johnson, 2017). That is to say, CFA models assume that items are uncorrelated with each other beyond their relationship with the same underlying factor, and any observed correlation is only result of the underlying latent factor. In effect, once the influence of the underlying factor is controlled for, one should expect that there is no correlation between two items that measure the same latent variable.

When examining the modification indices for Chapter 2, it became clear that several of the variables were highly correlated with one another beyond the variance shared through a common factor. There are two general explanations for large modification indices: from a theoretical perspective, large modification indices may

suggest the presence of additional latent factors that are acting upon particular items (Kline, 2016). There is also evidence that large modification indices are an artifact of methodology; for example, Maguire and colleagues (2017) found high MI values for pairs of survey items that

appeared in the same response block and asked about similar topics (i.e burglaries and robberies, abandoned housing and empty lots of land).

The first pattern I identified involved the six measures of department policy procedural fairness. The modification indices indicated a high degree of error correlation between items that tapped the same policy domain. That is to say, there was additional correlation between the two items capturing the fairness of job assignments [MI = 159.91], the two items capturing the fairness of promotion policies [MI = 357.57], and the two items capturing the fairness of discipline [MI = 86.19]. While it is possible that these addition correlations point to minor factors within department policy procedural fairness where officers separate their judgments by domain, the similarities in the questions and the presentation of the items within the response block suggest that the similarity is a methodological artifact. I therefore freely estimate these three error correlations in all subsequent models.

The second pattern to emerge involved correlations between several items measuring supervisor procedural fairness and peer procedural fairness. Five of the eight supervisor procedural fairness items shared a common root ("*How often do your supervisor(s)…"*) and four of the eight peer procedural fairness items shared a similar

common root ("*How often do officers in this department…"*). The modification indices presented in Table B2 suggest that for over half of the pairings between supervisor

Table B2

Modification Indices for Questions with Similar Roots

Variable	Survey Question
SPF2	How often do your supervisor(s) treat you with dignity and respect?
SPF4	How often do your supervisor(s) give you explanations for the decisions they make that affect you?
SPF6	How often do your supervisor(s) treat you the same way they treat everyone else when making decisions?
SPF7	How often do your supervisor(s) ask your opinion before making decisions that affect you?
SPF8	How often do your supervisor(s) take the time to listen when you express your views?
PPF2	How often do officers in this department treat you with dignity and respect?
PPF4	How often do officers in this department act honestly and ethically when they interact with you?
PPF6	How often do officers in this department treat you the same way they treat other officers?
PPF8	How often do officers in this department ask for your opinion on issues?

	SPF2	SPF4	SPF6	SPF7	SPF8
SPF2	-				
SPF4	11.514	-			
SPF6		11.655	-		
SPF7	18.122	22.3		-	
SPF8	6.7	7.116		37.831	-

	PPF2	PPF4	PPF6	PPF8
PPF2	-			
PPF4	26.346	-		
PPF6		42.982	-	
PPF8				-

procedural fairness items that share this common root, freeing the error correlation term within the measurement model would significantly improve model fit. Similarly, for two of the six pairings of peer procedural fairness items that share a common root, freeing the error correlation term would significantly improve model fit.

While modification indices are useful for diagnosing sources of misfit, blindly following the MI recommendations will generally lead to a well-fitting but substantively meaningless model. Kenny (2011) presents three considerations when freeing error correlation terms within a measurement model. First, there should be a substantive rationale for why the errors are correlated. In this case, there is reason to suspect the error correlation is the result of a methodological artifact. Second, error correlations should be transitive. That is to say, if SPF2 and SPF4 are correlated and SPF4 and SPF6 are correlated for the same reason, SPF 2 and SPF6 should also be correlated in the model. And finally, the rules for correlating errors should be generally applicable. That is to say, if there is a reason to correlate the errors between one pair of errors, then all pairs of errors that meet those same criteria should also be correlated. I therefore freely estimate error correlations between the five supervisor procedural fairness measures that share a common root, and the four peer procedural fairness measures that share a common root. The results reported in Chapter 2 contain these modifications to the measurement model.